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ABSTRACT

An elementary school guidance counselor conducted a practicum designed to address low-income, urban Puerto Rican and black fourth- and fifth-grade students' need for career awareness. In the course of implementing the eight-month long intervention, nine classroom teachers were asked to set aside two periods each week for: (1) developing students' self-awareness, self-concept, and positive attitudes toward work; and (2) increasing students' occupational awareness. A total of 30 lessons were developed and taught in conjunction with 8 occupational clusters. Students were taught about entry level requirements, the nature of the work, and the qualifications necessary for all the occupations in each cluster. Guest speakers involved in the occupations discussed in the students' lessons visited classrooms and discussed their work and its relation to students' course of studies. Students visited work sites where they saw the guest speakers perform their jobs. A career fair was held near the end of the school year. Evaluation data suggested that the goals of the practicum were met: namely, teachers understood the importance of a career awareness program in the curriculum and students learned that skills and information learned at school are used at work. Related materials, including the career awareness and self-awareness lessons, and the questionnaires and evaluation instruments used in the project are appended. (RH)

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Developing Career Awareness in the Elementary School Through Self Awareness and Role Modeling

by

Salvatore V. Tillona

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NOVA UNIVERSITY

Developing Career Awareness in the Elementary School Through Self Awareness and Role Modeling.

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Salvatore V. Tillona

Cluster XX

A Practicum II Report Presented to the Ed.D. Program
in Early and Middle Childhood
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

NOVA UNIVERSITY

1988

This practicum took place as described.

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This practicum report was submitted by Salvatore V. Tillona under the direction of the adviser listed below. It was submitted to the Ed.D. Program in Early and Middle Childhood and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova University.

Approved:

Date of Final Approval of Report

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Adviser

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ABSTRACT

Developing Career Awareness in the Elementary School through Self-Awareness and Role Models. Tillona, Salvatore V., 1988: Practicum Report, Nova University, Ed.D. Program in Early Childhood Descriptors: Career Education/Career Exploration/Career Awareness/Career Planning/Self-Awareness Elementary School Curriculum/Learning Activities/Teaching Guides

This practicum addressed the need for a career-awareness program and the opportunities for children to recognize their strengths and talents. In reviewing the literature and a survey of various school systems' career education programs, the writer found that none of them combined a course of study which explored the childrens' strengths and talents, while they helped them to understand the educational and skills requirement for various occupations. This understanding of their strengths and talents, combined with role models from the occupations they studied, should be coupled with an understanding of the requirements and skills of many different occupations. This process would help the children choose appropriate career clusters for themselves in the future. The writer's general goal was to develop and encourage occupational motivation in fourth and fifth graders.

The writer implemented a course that focused on: the training of teachers in the use of career education in the regular curriculum areas; the recognition in children that work is a worthwhile, rewarding pursuit in life; the childrens' understanding of the educational and skills requirements of many occupations; the realistic thinking in children concerning appropriate career goals; and a positive attitude towards career education in children and teachers.

The results of the practicum in almost all aspects far exceeded the behavioral expectations of the writer. The results showed: a positive attitude of both teachers and children toward career education; student understanding of correlation between positive self-awareness and strengths and talents, as an important tool for determining a realistic future occupational goal. Through role models and exploration of various occupations, students diserned a clearer relationship between skills learned in school and skills needed for work. Finally, the children learned all occupations were important and worthwhile, and they learned that most occupations required some education and training.

CHAPTER I

INTRODUCTION

Description of Community

The setting for this practicum was an elementary school of more than 800 students in a lower socioeconomic area. The majority of the families were either welfare receipients or working poor. The ethnic composition of the school was 55 percent Puerto Rican and 45 percent Black. The remainder of the district which services approximately 30,000 children from pre-Kindergarten through ninth grade was primarily Puerto Rican. There was a large minority of lower middle-class white families. The housing in the district consisted of several welfare housing projects, two to twelve family dwellings of varying conditions of deterioration, and two newer middle-class housing complexes.

There was a large and growing industrial section, since its proximity to a major city makes it highly desirable for small and medium-sized manufacturing and service industries. There was a large international pharmaceutical firm, a large industrial, commercial cleaning firm, and numerous small to medium-sized companies that provide services or are manufacturers of industrial products. After many years of decay and neglect, there seemed to be a resurgence in the area because of its relatively low rents and its existing industrial plants. However, there was little employment for the residents of this community.

Many of the children in the school came from broken homes or single parent homes and received welfare. Their parents were usually unemployed or those who were employed in minimal jobs in marginal industries; those were are unemployed were often victims of substance abuse and, as a result, their children were either abused physically or neglected. The children were often unsupervised or supervised by older children and came to school unprepared, stigmatized by abuse and neglect. They were usually physically and nutritionally unprepared, as well.

There was little in their futures that was promising, since they see older siblings succumb to drugs and/or alcohol, cyclical welfare subsistance and terminal hopelessness. There was little chance that these children were able to extract themselves from these circumstances and less chance of imagining opportunities for dignified, worthwhile and productive pursuits in life. There were few, if any, role models of the type of lifestyles that would bring them into the mainstream of society and give them the dignity and opportunity they desire.

Author's Work Setting and Role

The writer was a guidance counselor for more than 800 students in the regular class in the school. For nearly twenty years, the writer's duties included teaching of grades first through fifth, usually dealing with the more difficult classes, diagnostic math teacher, and administrative assistant to the principal. During this practicum, the writer was a guidance counselor. His duties included: individual and group counseling; referral of students for placement in special educational programs; referral of students and their families to community mental health clinics and hospitals for counseling and testing; acting as a liaison for the school between troubled families and outside agencies; conducting staff conferences for the purpose of familiarizing teachers with procedures concerning referrals, placements and handling of behavior problems; and familiarizing parents with the services provided by the school-based support team, the outside agencies and other programs available to them through the guidance office.

For many years the writer had attempted to provide, through career awareness, information channelled through a voluntary program of career curriculum to supplement the regular curriculum and to provide guest speakers to visit the school and discuss their occupational successes. In a few isolated instances, this brief exposure had fired the curiosity and imagination of youngsters and had initiated a successful venture that resulted in a rewarding career.

CHAPTER II

STUDY OF THE PROBLEM

Problem Description

The children who were serviced at the school generally lacked the family history, the role models and the motivation to succeed in a worthwhile and dignified work situation because of the conditions that existed around them. They were generally deprived of a healthy home environment and childhood by parents who were hopelessly entrapped in a cycle of poverty, substance abuse and unemployment. The results of these conditions were children who were not only poorly motivated to learn and succeed in school, but also had little or no ambition for a dignified work situation that would bring them a worthwhile lifestyle. If the problem could be eradicated and the situation normalized, every child entering the school would develop a desire to perform well academically and aspire to improve his life. Further, the child would be inspired to investigate several occupational groups presented to him or her while he/she attended the school, and the result would be a desire to rise above the economic deprivation, abuse, neglect and terminal hopelessness of his/her elders, to aspire to a worthwhile career. The problem stated briefly was that there was little in the school to combat the lack of occupational motivation and hopelessness due to economic deprivation.

Problem Documentation

The writer proved the problem existed through a questionnaire surveying teachers of grades four and five, interviews with the principal of the school and the district director of guidance. These people attested to the need for a career awareness program, particularly for these children.

The Director of Guidance, emphasized that the career component of the guidance program was not only important because of its being state mandated, but because it was vital to the future of the children. She emphatically stated that positive work attitudes and career awareness were among the most important weapons against this continuing cycle of desperation, hopelessness and poverty. Indeed, she had seen in her twenty-five years in education the infusion of hope and ambition in thousands of youngsters who successfully broke the chain of poverty, in spite of the family and community influences. She believed strongly that "students should first explore job possibilities in their immediate surroundings," no matter how limited they were due to economic conditions. She has always encouraged teachers and guidance counselors in the elementary schools to explore career awareness possibilities with the children. In conjunction with career awareness, she had stressed that "students need to learn about themselves." She had again encouraged teachers and guidance counselors to make use of the resources of the district office for career awareness purposes. The director noted that teachers had been under enormous pressure over the last few years to neglect many areas and concentrate on the areas of reading and math, since the scores of each school and district are published yearly. However, she continues to introduce and emphasize career awareness as part of the reading, math and social studies curriculum. She maintained that because of the lack of guidance counselors in the elementary schools and the unwillingness of administrators to develop programs in career awareness, most teachers are neither encouraged nor supported in career awareness.

Two other areas of career awareness that were important to her were having the students meet with guest speakers of varying occupations and taking trips to work places beyond the children's community. Activities, she stated, were important to expand the possibilities of career opportunities to the children. "Because of the circumstances of our neighborhoods, it was essential that our children be aware that there were other lifestyles, career possibilities, and role models." In conclusion, she supported the writer's efforts and promised complete support of all her resources.

The principal of the school was also interviewed. Although he had been with the school only two years, he worked in a similar neighborhood in the district. He was familiar with the needs of the students and the conditions of their surroundings. The principal was in full support of this writer's interest in and concerns for career awareness. He understood the teacher's reluctance to include career awareness in the regular curriculum, owing to the other pressures teachers endure. However, he stated that the children desparately needed an awareness of career possibilities early in life, so that they could withstand the pressure and demands of their everyday existence.

The writer distributed a questionnaire to the nine fourth and fifth grade teachers of the school. The results affirmed the writer's view that the children have a negative view towards work. The results were that four respondents strongly agreed, three respondents agreed, while two disagreed, possibly because of their own family situations and deprivation around them; these teachers feel that students need not have negative feelings towards work. In response to the statement concerning exposing the children to many role models of various occupations, all nine respondents strongly agreed, confirming the need for individuals of various occupations to address the students. Eight of the nine respondents strongly agreed with statements 7, 8, and 9 on the Teachers' Survey of Needs, which concerned having more done throughout the year to make children aware of the nature of work; additional resources on career awareness and work appreciation; and the children benefitting from additional resources in career awareness and work appreciation. The final statement on the Teachers' Survey asked the teachers whether or not a career program that integrated academic areas, trips and assembly programs geared to career awareness was, in their opinion, a valuable component to the educational program, eight of the nine respondents strongly agreed; the ninth respondent agreed.

The results of the survey appear on the following page, Table 1.

Additionally, the respondents overwhelmingly agreed with the statements in numbers 4 and 6, that the children should know the entry requirements of many different occupations and that more should be done to make the children more aware of these requirements. Further, they overwhelmingly agreed that the children should be aware of the nature of work in occupations they desire, and more should be done to make them aware of the nature of work they desire.

Problem Analysis

Through interviews with the principal and the director

TABLE 1

COMPOSITE RESULTS OF TEACHERS' SURVEY OF NEEDS

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
1. Our children have a negative view towards work	4	3	2	0	0
2. Our children need to be exposed to many role models of different occupational choices	9	0	0	0	0
3. Our children should learn to be realistic about their goals in life	6	3	0	0	0
4. Our children should know more about the entry requirements of many different occupations	6	3	0	0	0
5. Our children should be aware of the nature of the work in occupations they might desire	7	2	0	0	0
6. There is value in having more done to make them aware of different occupational entry requirements	5	4	0	0	0
7. It would be of value to have more done to make our children aware of the nature of work in a variety of occupations	8	1	0	0	0
8. Our children would benefit from additional resources on career awareness and work appreciation	8	1	0	0	0
9. Our children would benefit from participation in a career awareness program in this school	8	1	0	0	0
10. A career awareness program which integrates the academic areas, trips, assembly programs and a career day would be a valuable conponent to our educational program	8	1	0	0	0

of guidance for the district, several causes were identified. The first was pressure teachers felt from outside forces to demonstrate proof of positive results in academic subjects which allowed them little time for career awareness. All educators experience pressure from parents as well as central boards for positive results on standardized tests, while these same forces ignore real growth that cannot be measured. The second concerned the teachers' failure to see the relationship between the skills they teach and career awareness. Teachers often complained that they must teach the skills prescribed by the curriculum. They failed to see the relationship of these skills with requirements of various careers. The third seemed to be the apparent lack of knowledge and/or interest of teachers and supervisors in career awareness. Teachers and supervisors were given little training in career education as preparation for teaching. Therefore, they were ill equipped and, as a result, had little interest in career education. Perhaps a career education component should be added to teacher graduate education. The fourth was the fact that children had few role models at home for worthy occupations. Many students' homes lacked a male model. Further, any adult role model they may have had was usually an unemployed female who was overwhelmed by children and poverty. The fifth referred to the lack of role models in the community. The most successful occupations in the ghetto were the dope pushers and pimps who live in a world of violence. The sixth dealt with the children's negative view of the value of work. The children saw that most adults either did not work and received welfare or did minimal work. Therefore, the children developed a negative view of work; they saw little need for an occupation, if it meant a minimal job. They began to expect welfare payments and were unable to envision welfare system alternatives which could have been more self-fulfilling.

Related Literature

Career education has traditionally been the province of the secondary school system. This planning and education usually occurred in the latter part of the child's secondary education, in an attempt to prepare him for work or post secondary education. Hoyt (1981) stated that "Career education is an effort intended to be applicable to all persons at all ages, including all kinds of educational settings" (p. 10). Professionals on the elementary school level in their passion to impart the basic skills, which they felt were the foundation for secondary, post secondary and life, tended to overlook the more essential skills and attitudes for life's most important task, that is, work. Gillet (1981) stated that: "While career education seems to be a subject far from the immediate concerns of an elementary child, it is at this level that behavior patterns become securely fixed. This is where attitudes, habits and skills are learned as well" (p. 100). So educators would do well to incorporate these attitudes, habits, and skills, beginning in the elementary level, if they are to obtain results in the end, as the child becomes an adult.

Further, Hoyt (1981) maintained that: "Career education is an effort that demands the joint participation of the education system and the broader community. It is not something that the educational system can accomplish by itself" (p. 10). This joint participation of the education system and the broader community and their respective resources should be the basis of any career awareness program. There were educators who felt that the elementary school was too early a stage for beginning career awareness, since it was too early to make career decisions. However, Bailey (1973) advocated career education since "the primary role for career education is to facilitate concepts, attitudes, and skills related to the career development aspects of general growth and learning" (p. 92). He included the following curriculum concepts as a model: comprehending oneself; comprehending the nature of occupations, the economic system and educational possibilities; accepting responsibility for career planning; developing skills in information processing and decision-making; learning to relate to individuals and groups; and developing attitudes and values toward work. Pinson, Laramose, & Mangum (1973) stated "career education encompasses all education in that it is that part of a learning experience that assists one to discover, define and refine his talents and use them in pursuit of a career" (p. 10). In addition to understanding one's own talents and skills, it was equally important for the individual to learn to have positive attitudes and respect toward others. Ewans, Dobson & Seals (1976) contended that "career awareness has as its goal the development of positive attitudes toward self and others and toward vocational and avocational pursuits as an integral part of life" (p. 23).

Bailey (1973) insisted that a curriculum model must develop the following: The child's ability to comprehend himself or herself; to comprehend the nature of occupations the economic system and educational alternatives; to accept responsibility for career planning; to develop skills in information processing and decision making relative to individuals and groups; and to develop attitudes and values towards work. Bailey felt that goals for career awareness programs should include: becoming aware of self-characteristics; recognizing different types of work roles; showing awareness of responsibility for one's own behavior; knowing how to organize information for learning and action, learning cooperative social behavior, showing interest in learning about work.

Further, Hoyt, Pinsen, Laramore and Mangum (1973) stated that "The purpose of career education should be to help people develop human resources competence along with a holistic understanding of the world of work or the employment system" (p. 10). They advocated that the child should recognize the utility of basic arithmetic skills in situations where he/she must conserve, spend and build; recognize the utility of basic communication skills in situations where he/she must persuade, defend, inspire, or encourage, as well as communicate an idea; recognize the utility of basic scientific skills in work situations, as well as for examinations; recognize the utility of basic social science principles that concern current social attitudes, habits and needs, as well as to discuss world cultures; recognize the utility of basic physiological principles in situations where he must match psychomotor skills with ongoing maintenance. Hoyt, et. al., recommended the synthesis of subject matter, the aforementioned career education concepts and other activities for the learning experience, such as field trips.

Evans, Dobson & Sebls (1976) stated that "Career awareness had as its goal the development of positive attitudes toward self and others and towards vocational and avocational pursuits as an integral part of life" (p. 23). Evans, et. al. advocated a career awareness program for grades 3-5 which included demonstrating to children the relationship of skills learned in school and preparation for life and work, development of positive attitudes, encouraging them to assume responsibility, awareness of the interdependency of workers, encouragement of occupational clusters and the understanding that occupations require personal skills and qualities, and development of skills on decision making. Evans, et. al suggested many activities, small group projects, committee work, interviewing workers, television documentary and hobby fairs.

Paulovits (1980) maintained that the middle class work ethic was part of the reason for our nation's quick development. He stated, however: "Today the value of hard work seems almost gone especially in lower class society. People of every class have the same wish: that their children will not have to work as hard as their parents. The result: young people, from every economic level, are acquiring material possessions without any effort" (p. 344).

The educational system had tried traditionally to indoctrinate youngsters to set high aspirations for themselves and to work hard to achieve lofty goals according to Paulovits. In fact, schools were viewed by some as agencies for increasing the students' useful skills for a contribution to society. Many of today's youth had different needs, values, and aspirations than those of the last generation. However, today's children were interested in self-fulfillment and simple things of nature, rather than material things associated with wealth and prestige as their parents would like to indoctrinate in them. Hence, the conflict between parental goals and children's concepts of self-gratification become obvious.

There was, according to Paulovits, "a feeling of aimlessness among students" (p. 345). The failures of the schools, he stated, were to provide goals, personal motivation and personal pride. Other factors of this aimlessness were: dissatisfaction, unemployment and a divided society of stereotypes.

Paulovits stated further that career consciousness had developed because of the economic conditions which exist today: the division in living standards of the "haves and have-nots." He told us that "one must recognize that the American concept of success is difficult to obtain by a sizable number of individuals. Very likely much frustration is experienced by those who fail to attain success and who, as a consequence, are unable to achieve respect" (p. 345).

Paulovits made clear that career education was a new component being incorporated into existing curriculum. He pointed out that proponents do not agree on the philosophy fundamental to career education. He believed that the components of a career education program should include the following basic concepts: teaching dignity of all work; finding a direction in life; setting school goals that allow students to develop marketable skills; and giving students work experiences for career possibilities available to them.

Bearg (1980) further suggested that: "To succeed, a career education program needs the support of school personnel, students, parents, and the community, including business, industry and professional organizations" (p. 266). She contended that on the elementary level, a career awareness program should include experiences for students with role models and opportunities for them to become acquainted with specifics of these professionals' careers. This exposure would permit the students to become aware of their own interests, values and abilities, and to better understand their own career planning.

Navin & Sears (1980) stated: "A sound rationale for career guidance points out that the career development process begins in early childhood and continues throughout life" (p. 269). They stated that career education was not a separate component from the regular curriculum, but an important part of child and human development. Navin & Sears quoted Bardwich (1971), McCandless (1969): "Experiences in early childhood substantially influence later career development and career decisions" (p. 269). They acknowledged the importance of the parents' role in the development of the children's career planning; therefore, it was expected that schools should involve parents in career education programs. The authors advocated an examination of possible parent involvement in career education nationwide. However, recent studies showed that parent involvement is low. The authors, in addition, claimed that parent involvement in the planning, organization and advisory should be extensive. The authors cite an article by Dodson (1971) concerning occupational planning programs for inner-city elementary students, suggesting involvement in luncheons, classroom and school-wide career planning meetings and career fairs. Parental occupations should be surveyed and appropriate occupations identified; these parents should be involved with the presentation of their occupations to the students.

The authors presented two reasons for parental involvement, the first was that it increases the acceptance of the concept of career awareness, and, therefore, positively affects the students' acceptance; the second was that parents could be a helpful source for planning and implementing the program.

Splete (1980) stated that: "Career development has been defined as an ongoing process that occurs over the life span" (p. 254). It included life experiences at home, school and in the community and was related to an individual's self-concept. The author concurred with others who insisted that career development on the elementary level must be complemented by activities in a variety of environments. He believed that the collaborative effort of school and community was significant and would help the student increase self-awareness, career awareness and his notion of relevancy to the student's life work.

Stock (1984) cited a series of prestigious commission reports concerning the quality of education in America. The key words that were found in many of these reports were "change" and "accountability." The emphasis was a commitment to excellence, clearly defined goals and purposes, increased resources, and a definition of needs of children and roles of the participants in the educational process, which was much of what career education had done over the last ten years.

Hoyt (1984) concerned himself with a question most parents ask themselves, "What career will my child follow?" (p. 216). Parents share a universal hope of all parents that their children will be happy, self-sufficient adults who make positive contributions to society. They also hold the universal hope that their children would have the maximum freedom to choose a particular career the child desires. Hoyt felt that the career education movement should give the parents an understanding of career education and help parents become participants in the process, with the community, to provide their children with a career education program. He stated that "The careers your children choose will inevitably affect many aspects of your total lifestyle, as well as that of your children" (p. 224).

Therefore, career education should be the ultimate concern of every parent. In addition, Hoyt envisioned that career education would be in the forefront of educational changes. He admonished career educators that the effort should be made, regardless of environmental, economic, sociological or other adversities, though these problems could make the progress more difficult.

CHAPTER III

ANTICIPATED OUTCOMES AND EVALUATION INSTRUMENTS

Statement of General Goal

The general goal of this practicum was to develop and encourage occupational motivation in fourth and fifth graders.

Behavioral Expectations

The behavioral expectations which were to be considered evidence of having achieved the general goals were as follows:

1. Each fourth and fifth grade teacher would demonstrate a greater awareness of career education opportunities in the curriculum areas and they would understand the importance of children knowing their interests and talents

2. Each fourth and fifth grade student would demonstrate an awareness of his own strengths and talents.

3. Each fourth and fifth grade student would demonstrate a positive attitude towards work as a worthwhile, rewarding pursuit in life.

4. Each fourth and fifth grade student would be able to demonstrate an understanding of various occupational groups, and would be able to match work places and entry requirements with occupations successfully.

5. Each fourth and fifth grade student would be able

to demonstrate realistic thinking concerning occupational choices.

6. Each fourth and fifth grade student would demonstrate a positive attitude towards career education.

7. Each fourth and fifth grade teacher would demonstrate a positive attitude towards career education.

Standards and Evaluation Instruments:

The following were the evaluation tools to measure the success of goals and behavioral expectations.

1. The Teachers' Career Awareness Questionnaire consisted of eight questions regarding teachers' awareness concerning career education. The teacher responded to each question based on a five-point scale indicating: strongly agree, agree, disagree, strongly disagree, no opinion. When presented with a Teachers' Career Awareness Questionnaire regarding their awareness of career education opportunities, each teacher would demonstrate sufficient awareness by a score of 32 or higher on a scale of 40 on this instrument. (see Appendix A)

2. The Students' Strengths and Talents Inventory required that each student would choose eight strengths and talents from a list of twenty-five combined strengths and talents. When presented with a Students' Strengths and Talents Inventory, each student would demonstrate an adequate awareness of his own strengths and talents by the

ability to indicate 8 strengths and talents on the Students' Strengths and Talents Inventory. (see Appendix B)

3. The Students' Attitudes Towards Work Questionnaire consisted of fourteen questions regarding attitudes toward work. The student was to respond yes or no to each question. When presented with a Students' Attitude Towards Work form, each student would demonstrate a positive attitude towards work by positive responses on 8 out of 12 statements on the Students' Attitude Towards Work Questionnaire. (see Appendix C)

4. The Occupational Questionnaire consisted of a list of nineteen occupations that were to be matched with five types of training and entry requirements and nine types of work places. This was to test the child's understanding of training and entry requirements for various occupations. When presented with an Occupational Questionnaire, each student would be able to demonstrate an understanding concerning the entry requirements of the various occupations by matching occupations with training and work places in ten out of the nineteen occupations on the questionnaire. (see Appendix D)

5. The Student Self-Evaluation form consisted of eleven questions concerning attitudes and thinking processes the student should have gone through for the program to be successful. The student was to respond to each question based on a three-point scale indicating: agree, disagree, no

opinion. When presented with the Student Self-Evaluation form, each student would be able to demonstrate realistic thinking concerning occupational choices by a positive response in at least 3 of the following questions: 4, 5, 8, and 11 of the Student Self-Evaluation form. (see Appendix E)

6. See description of Student Self-Evaluation form above. When presented with the Student Self-Evaluation form, each student would be able to demonstrate a positive attitude towards career education by positive responses to at least 6 of the following questions: 2, 3, 4, 7, 8, and 10 and, in addition, achieve an overall score of 45 out of 50 on the Student Self Evaluation form. (see Appendix E)

7. The Teacher Attitude Questionnaire consisted of ten questions concerning the teacher's attitudes toward the career education program in which he participated. The teacher was to respond to each question based on a five-point scale indicating: strongly agree, agree, disagree, strongly disagree, no opinion. (see Appendix F) When presented with the Teacher Attitude Questionnaire, each teacher would demonstrate a positive attitude towards career education by obtaining a score of 40 out of 50 on the Teacher Attitude Questionnaire. (see Appendix F)

CHAPTER IV

SOLUTION STRATEGY

Discussion and Evaluation of Possible Solutions

An extensive search of existing literature concerning approaches to dealing with teaching children career awareness revealed a number of alternatives. However, most programs required either the commitment of large resources and equipment which went beyond the capacity of the school and the district or lacked the comprehensiveness that this writer required.

The Career Education Resources Unit, Grade 5, (1976) from the Newark School District, Delaware, stated that

> Career education is a comprehensive educational goal designed to provide all youth the opportunity for career awareness and the opportunity to attain skills necessary to achieve economic independence and an appreciation of the dignity of work (p. 7).

This document suggested an infusion of the concepts of occupational variety, career awareness, developing positive attitudes toward work, as well as the students' positive feeling towards themselves and others. This program included lessons in broad areas of positive attitudes toward work, self-awareness, occupational awareness, and relating basic subjects with career awareness. The authors of Career Education Resources Unit Grade 5 (1976) stated that

"These materials are intended to be utilized as resource materials. They can be adapted by teachers seeking to infuse career concepts into their existing curriculum or may be utilized as complete units" (p. 5). The Newark School District of Delaware has found the program to be successful.
While the program can be incorporated into any program proposed, it is necessary to add additional components concerning career awareness and should be more closely related to existing curriculum.

Bowman and others (1976) described a plan for writing a curriculum for instructional improvement through career education. They suggested many sample lessons in the areas of self-awareness, personal characteristics and strengths, consumer awareness skills, money management, occupational qualifications, interpersonal relationships, appreciation of work, the dignity of all work, and the relationship of work and learning, good habits and traits, and social skills. The plan had been successful according to its authors, and its flexibility has helped teachers to adapt it to their particular needs and requirements. Another favorable consideration of the plan is that few additional resources are needed. The writer had used parts of the plan in the final program of the school district.

The Mason County Career Education K-Adult Volume II (1975) stated that "The teachers' function in career development is to help the child to grow a sound and sturdy personality and to develop a healthy attitude towards himself and towards others" (p. 6). It suggested five to eight career clusters for each grade. It lacked the relationship to the regular curriculum and the component of resources drawn from the business community.

White and others (1975) in a pilot project developed a program concerning positive attitudes towards work, the responsibilities and opportunity that work necessitates, self-awareness, and personal development. Through various workshops and school visits, twenty-five teachers were chosen to participate in this project. The authors felt the results of the project were encouraging but the project was not continued because of the lack of funds. The problem with the program, in the writer's view, was that it lacked any relationship to the curriculum and, therefore, ignored helping the children see a relationship between learning and work. Further, it failed to bring the business community into the project and, most importantly, it neglected the component of occupational awareness which this writer feels is important in any career awareness program.

Becker and others (1974) developed curriculum for the Powell Public Schools, Wyoming, which exposed the children from kindergarten through sixth grade to nine different occupations each year for a total of 63 occupations by the sixth grade. They felt "career education in the elementary school will acquaint the student with the world of work so as to enhance a positive attitude toward the dignity of work in our society" (p. 5). Through the thorough investigation of these sixty-three occupations, the authors hoped to convey to the children that "Every occupation, no matter what the title, educational requirements, salary or working conditions, is a necessary and vital component of America's work force. Knowledge of workers and dignity of work will develop a respect for others, an appreciation for their contribution and a pride in the world of work as a whole" (p. 8). While the authors found the program to be successful, the writer found several components missing for a thorough career awareness program. It ignored the ingredients of self-awareness and positive personal traits. In addition, it focused on individual occupations rather than occupational clusters which will give the children a narrow view of occupational opportunities. Further, the program lacked follow-up activities and failed to relate the occupations they are presenting with the curriculum subjects they are studying.

The 1974 Career Awareness Program, grade 5, of Boise City Independent School district described career awareness as:

> an on-going program integrated into the regular school curriculum utilizing all disciplines. The major emphasis is to take students into the community and to bring the community into the classroom. Self development and understanding is stressed. Activity and student involvement is the theme. (p. 9)

There are clusters for each grade which were taken from material by the then Department of Health, Education and Welfare. They included business and office; consumer and home maker; communications and media, fine arts and humanities, hospitality and recreation; environmental control; personal services; manufacturing; health and public services; agribusiness and natural resources; construction; and marketing and distribution. Each area has group units and five to fifteen activities. There are field trips arranged by the career awareness technician, along with resource speakers coming to the classroom to describe their work. The authors emphasized that:

> career education is an integrated planned approach of incorporating career information within the regular school subjects. It will relate the school subjects to the world of work in such a way the student can best see an additional need and purpose for the subject. (p. 10)

The program's authors felt that particularly in the elementary school period the children should be made aware that there are more occupational opportunities than just fireman, policeman, etc., which account for the initial stages of career choices.

However, the manual stated "The intent is not to force a student into an early decision, but to give him a wide base of experiences so that when he does make a decision, it will be a realistic one supported by a background of many experiences" (p. 11). The component of widened experiences on which to base a career choice decision is an extremely important element in any career-awareness program. However, there are several components missing from the program. The program uses former Department of Health, Education and Welfare clusters, with group units for each area cluster and five to fifteen activities. The program suggests field trips and guest speakers. The component that seems to be missing in the career awareness program is the relationship of what the child is learning to occupational information. There seems to be no relationship between occupation information and the child's regular curriculum subjects.

The Royal Oak School District Career Awareness Plan included a curriculum of Learning Experiences in Technology: Integrated Teaching Unit Handbook: Book 3. The plan uses the various technologies such as anthropology and archaeology, city planning and construction, crafts, ecology, graphic, communications, human biology, etc., to explain the way man does things and the occupations involved with a particular technology. It ignore self-awareness, personality, habits, career awareness, occupation clusters and skills and education involved in various occupations.

Gillet (1981) stated that:

> ...while career education seems to be a subject far from the immediate concerns of an elementary child, it is at this level that behavior patterns become securely fixed. This is where attitudes, habits and skills are learned as well. (p. 100)

She presents fifteen job clusters and gives objectives for the teachers to achieve. Ignored were self-awareness, personal traits and the resources of the business community.

Hoyt (1981) contended that career education was an effort that required the combined participation of the educational system and the broader community, including the business community. It is a task that Hoyt contended would not be accomplished by the educational system itself.

Hoyt told us that there were ten basic career educational skills and among them he includes: basic academic skills of mathematics, oral and written communications; skills in using and practicing good habits; skills for developing and employing a personally meaningful set of work values to encourage the will to work; skills to get an understanding of the American system and free enterprise; skills for self-understanding and understanding of available occupational opportunities; and career decision-making skills. The objectives for grades four through six involve the children's understanding of the relationship between the various subjects studied and skills for adult occupations, as well as respect for the work ethic. In addition, other objectives included increasing students' self-concepts, appreciation for all talents, clarifying values, and developing problem solving skills. Finally, the objectives include increasing pupils' respect for parents' occupations and knowledge of careers more socially respected than those of their parents. However, Hoyt failed to include the community, in general, and the business community, in particular. Hoyt did not include lessons that suggest ways of implementing these objectives. He also ignored occupational skills and requirements.

Bailey (1973) stated that: "The primary role for career education is to facilitate concepts, attitudes, and skills related to the career development aspects of general growth and learning" (p. 92). His goals included becoming aware of self-characteristics and different types of work roles. His objectives also included: developing an awareness for the student behavior and cooperative social behavior. Finally, the objectives included developing an interest in learning and making decisions. Bailey stressed the acceptance by students of the differences in work attitudes and values. Bailey ignored the teaching of occupational requirements and skills. He also failed to provide sample lessons and the relationship of career awareness to academic subjects taught. The author also ignored the socioeconomic disadvantaged children who have no role models from parents who are unemployed or in marginal occupations and who rarely experience positive work attitudes.

Hoyt, Pinson, Laramore and Mangum (1973) stated that "Career education encompasses all education in that it is that part of a learning experience that assists one to discover, define, and refine his talents and use them in pursuit of a career" (p. 10).

The authors felt that the purpose of career education should be to help an individual to develop human competencies, in addition to an understanding of the world of work. This definition includes all individuals with various intellectual abilities; they stated:

> Career education is for all individuals, the very young child and the adults of the community, the intellectually able and the mentally handicapped, males and females, those who will attend college and those who will not, the economically affluent and the economically disadvantaged, and those from rural and those from urban settings. (p. 18)

The authors felt career education should be concerned with helping children implement their own personal work values. Some of the concepts that were related to the role of work in life and society included: some people in society must work in order for society to survive, all work is honorable and dignified and man's work determines his standard of living. The author's concepts related to the nature of the world of work include: some workers are producers of goods, while others provide services; any career has levels of responsibility and customs; traditions and attitudes of society affect the world of work. In addition, the concepts related to work values include: the idea that people work for many rewards and satisfactions, work can be viewed differently by different people, and generally, the better trained, more experienced and productive workers are, the more satisfied. Finally, some of the authors offered concepts related to career development and career decisions which included: every individual is entitled to a meaningful and rewarding career, people differed in interests, aptitudes and values; therefore, occupations differed in requirements and prospects, and every career demanded some special training. The authors ignored the self-awareness skills, the skills and training involved in occupational entry. The authors failed to give complete lessons and suggestions about bringing the community into the career education program.

Montimurro (1980) suggested that the mention of career day in the elementary school invoked various reactions that ranged from amusement to confusion. While it was a routine component in secondary education, it is viewed as inappropriate for the elementary level. The authors contended that with some minor adaptations in the secondary school format, the career day concept can be a very meaningful and exciting experience for elementary school students. Montimurro felt that young children required early exposures to various types of work. He believed that career day on the elementary level was an important way to connect the school with the community.

He described career day at Elmwood Street Elementary School in Millburg, Massachusetts. Twenty-three individuals, representing a variety of occupations, came to school to speak about their various jobs to third, fourth and fifth grade students. There were fifteen major career clusters represented and divided according to grade clusters. The children rotated among the occupations designated for their grades. In the presentations, the speakers guided the children to the realization of a relationship between what they study in school and how it translated to valuable skills and positive attitudes towards work. The children were motivated to continue their career exploration throughout their education.

After lunch and the speakers' departure, children continued to engage in career educational activities and games. The authors encouraged career poetry, contests and role play on work experiences. In conclusion, the children wrote letters to their favorite speaker.

Nelson (1980) used three story books for children and corresponding materials and activities that make career awareness choices relevant and interesting for children. These activities were integrated in the regular curriculum. The overall approach encourages children to understand their own behavior and behaviors of others. The author stated:

> Crest is an acronym for which one meaning is choice, responsibility and effective skills training. Children are helped through the program to deal cognitively with their choices as they hear about and discuss the concepts presented; they are helped to deal affectively with their choices as they explore how their feelings may control their actions; and they are helped to deal behaviorally with their choices as they learn about and try an ever widening range of responses to many situations. (p. 287)

The program encouraged divergent thinking which involved many curricular areas. The program is flexible concerning time needed and activities employed to reinforce the concepts.

Splete (1980) suggested activities should include the school and community. He stated:

> It also seems that collaborative programs involving people from both the community

> and school and including related experiences in both settings would be most beneficial to the planners, implementers and the students. Through collaborate efforts, they can foster better understanding of the schools by the community (p. 254)

and vice-versa. But the beneficiaries of this cooperative effort were the children who increased self-awareness and career awareness. Many of the concepts were incorporated in the writer's practicum planning.

Description and Justification for Solution Selected

The emphasis of most career awareness programs described above focused on attitudes and occupational awareness, but few suggested lessons that bring to the student involvement with the business world. As Hoyt (1981) told us: "Career education is an effort that demands the joint participation of the educational system and the broader community. It is not something that the educational system can accomplish by itself" (p. 10). Even fewer bring to the student the concept that there is a relationship between occupational skills and the academic subjects studied in school. Becker and others (1974) stated that: "Career education should begin in kindergarten and continue throughout life. It should be interwoven with basic curriculum in such a way that it will supplement and reinforce skills" (p. 5).

The best solution for the practicum was an eclectic approach to the problem. The writer used components from all of the above programs, considering a career awareness program that

1. provide a plan teachers could use to relate curriculum areas and community resources to career awareness.
2. provided a plan to promote student's self-awareness of their own strengths and talents.
3. promoted a positive attitude towards work
4. integrated different types of work skills into the regular curriculum.
5. exposed students to various occupational groups and entry requirements and talents necessary for various occupations.
6. acquainted students with various occupations and visited various work places.
7. helped the students to think of realistic occupations most suited for their talents.
8. concluded the program with the teachers feeling positive toward career awareness.
9. concluded the program with the students feeling positive toward career-awareness.

These components were accomplished through the following steps:

First, the teachers were trained for the career awareness program through a series of workshops given on the first day the teachers began the school year. The goals, objectives and components of this career awareness program were discussed. The lessons involved self-awareness, developing a positive self-concept, understanding personal characteristics and relationships with others, social skills, and investigating values and interests. The various occupational clusters were discussed and a list of guest speakers were developed. A tentative schedule of trips to various work places was arranged.

Second, over the first two months of this practicum the lessons were used to make students aware of their own strengths and talents, while developing awareness of positive self-concepts and interests. This new awareness was the basis for matching these elements with information about various occupational clusters.

Third, the children devoted the remainder of the year of this practicum, developing positive attitudes towards work and an understanding of the integration of different types of work skills into the regular curriculum.

Fourth, the students were exposed throughout the year to various occupational groups and became acquainted with various entry level requirements and talents necessary for the occupational clusters. The occupational clusters included: health; marketing and distribution; public services; communication and media; transportation;

personal services; business and office occupations; and hospitality and recreation. These clusters were introduced to the students, focusing on the nature of the work, working conditions, training, and qualifications for these occupations, and, finally, the potential earnings, with related occupations. The information was modified for the students; the information is adopted from the Occupational Outlook Handbook.

Fifth, throughout the year the students were exposed to various occupational groups through guest speakers, who represented some occupations studied in the occupational clusters. In addition, there were visits to several work settings for further exposure to those occupational clusters.

Sixth, the culminating activity for the program was a career fair, at the end of the school year, where various occupations were represented.

Finally, at the conclusion of the program on April 29, 1988, there was opportunity for evaluation of the feedback through surveys and questionnaires, along with informal feedback and any unexpected outcomes.

Report of Action Taken

The students were introduced to self-awareness, developing positive self-concepts, understanding personal characteristics and relationships with others. The eight occupational clusters were discussed and a list of guest speakers was reviewed. Several trips to a pharmaceutical plant, hospital, court house, police station, and firehouse were taken. The teacher and writer discussed the different grades and ability levels. The teacher and writer also discussed the integration of these occupational skills into concrete areas of the curriculum currently being studied by the student. Each teacher completed the Teacher Career Awareness Questionnaire (see Appendix A). The questionnaire consisted of eight questions concerning career awareness.

The second phase of the program involved teachers introducing various skills and concepts, through the thirty planned lessons (see Appendix G).

The teachers were asked to set aside two periods each week devoted to career education. One period was designed for developing self-awareness, a positive self-concept and positive attitudes towards work. The second period was devoted to occupational awareness, which included the nature of work, working conditions, training and qualifications of various occupations in a particular occupational cluster. One of the eight clusters was covered during each month.

1. Developing Self-Awareness and Positive Self-Concept:

a. Positive Self-Concepts: The teacher discussed qualities of students who are outstanding academically or socially. The class selected students who demonstrated these qualities. The teacher and the class established a star of the week for both academic and social qualities. In addition, the teacher and the class set up bulletin boards to highlight outstanding students in areas of helpfulness, punctuality, attendance and responsibility.

b. Understanding Personal Characteristics: The teacher discussed with the children characteristics, generally related to career success, such as appearance, temperament, socialibility, responsibility, etc. These characteristics were emphasized as important for success in social settings at work. The children were encouraged to rate themselves on these characteristics.

c. Positive Self-Concept: This consisted of a series of open-ended sentences that the students were asked to complete. Then the teacher discussed the results and compared answers with the class.

d. Self-Awareness: The teacher asked the students to write autobiographies focusing on a person who was influential in their lives, an important day in their lives, an important moment, a fear, a happy day, etc.

e. Self-Awareness: The teachers discussed with their students the following concepts: all people differ in ability, values, attitudes, interests and occupational goals. The teachers discussed understanding and accepting oneself and the process of development. Additional discussion included the roles of people in relation to other people and situations they experience in life.

f. Relationships With Others: The teacher discussed with the students the proper ways to behave in various social situations which they might experience.

g. Personal Characteristics: The teacher discussed with the students a list of words and examined how they can describe personal characteristics of people. Each student was asked to list ten personal characteristics. The lists were collected and redistributed at random. Finally, the lists were read aloud, so that the class would try to identify the writer of the list.

h. Understanding Yourself: The teacher asked the students to complete open-ended sentences concerning personal characteristics, likes and dislikes.

i. Understanding Social Skills: The teacher discussed with the students the proper ways to introduce oneself and others in different social and business situations. The teacher selected different students each day to practice social introductions of themselves and others. At the completion of these practice introductions, the class evaluated the performances.

j. Awareness of Myself: The teachers discussed with the students the use of their time, social interrelationships, personal values and interests. Then the teacher asked the students to answer questions which would help them understand themselves.

k. Self-Awareness: The teacher helped the students understand that people have different learning styles. The teacher used prescribed questions to help students understand their individual learning styles.

l. Self-Awareness: The teacher discussed the students' use of free time. The teacher used magazine pictures to answer the questions.

m. Self-Awareness: The teacher discussed with the students their values and interests.

n. Self-Awareness: The teacher discussed with the students their interests. Prescribed questions were used to help the students become aware of their interests.

2. Positive Attitudes Towards Self and Work:

a. Positive Attitudes Towards Work and Developing Good Consumer Habits: The teacher discussed good consumer habits and discussed and compared consumer ads from different stores concerning the same consumer item.

b. Money Management: The teacher discussed family budgets. Then the teacher gave each student $15 in play money. The teacher established jobs such as banker, bookkeeper, attendance supervisor, judge, lawyer, police officer, etc. Every student was given a job. The teacher established a checking and savings account for each student. The student was given $15 each day they attended school. Cash fines cost them set fees, for breaking class rules, while privileges had a dollar cost attached to them; each was set by the class.

c. Occupational Awareness and Aspirations: The teacher discussed the need for skills and training for all occupations. The teacher encouraged an understanding that all people must contribute to their world.

d. Recognizing the Need for All Occupations: The teacher discussed and researched several famous people with his/her class helping the students become aware of their contributions.

e. Developing an Understanding of Lifestyles: The teacher discussed the making of lifestyles, looking through magazines for different lifestyles, with each student developing a collage.

f. Job Interview: The teacher discussed with the students the possibility of interviewing a worker. A list of questions were developed and the students were asked to interview their worker. The interviews were discussed in class.

g. Work Habits: The teacher presented the students with a list of ten characteristics of good work habits. The students rated themselves on a scale of 1 through 5. Then the results were discussed in class.

h. Developing Positive Attitudes Toward Work: The teacher discussed work in terms of preservation and advancement of society. Also the rewards of work and the rules of work were discussed.

i. Nature of Work: The teacher discussed with the students society's dependence on work, dignity of work, and the notion that work determines a person's standard of living.

j. Interpersonal Relationships: The teacher discussed the cooperation and dependency of work by simulation of an assembly line. The class discussed the meaning of production quotas, division of labor, mass production, cost per unit, profit, pride in being part of a joint effort.

k. Understanding Ourselves and Others: The teacher discussed with the class the different people with whom they come into contact throughout the day. The teacher had the students use a chart to list all the people with whom they come into contact and what they had to do with them.

l. Job Families: The teacher gave students a list of occupational clusters. Each student discussed the occupation in relation to its involvement with people, data, things, ideas.

m. Attitudes and Abilities: The teacher discussed with the students the definition of "abilities" and "aptitudes" for different occupations. The teacher discussed why everyone could not be a hockey player, guitarist, dancer, doctor. The teacher discussed that abilities must be developed through learning and practice.

n. Understanding the Relationship Between the World of Work and School: The teacher had each student name five traits that lead to success in school.

o. Relating School Subjects to Various Occupations: The teacher discussed with the class various skills learned in school, and he/she then had the students list skills they learned in each subject and relate them to occupations that required those skills.

p. Occupations and School Subjects: The teacher offered a list of twenty-five occupations and six school subjects. Then each student was asked to pick three occupations related to each subject listed. Subsequently, the class discussed its answers.

The thirty lessons that are summarized above were an adaption of lessons presented in career awareness education curriculums from various school districts reviewed and cited on the reference page.

In November, after the first part of the career awareness lessons, the Students Strength and Talents Inventory (see Appendix B) was administered by each teacher. The students were asked to choose eight strengths and talents from the list of twenty-five on the inventory. The teachers were asked to review the twenty-five items on the inventory with the student's choices after the inventory was taken. The teachers were also asked to discuss the overall success of this exercise with the students.

In conjunction with the career awareness lessons, the students were exposed to eight occupational cluster groups, one every month. The students became acquainted with the entry level requirements, nature of the work, and the qualifications necessary for all the occupations in each cluster. Summaries of several occupations of the guest speakers were given to each teacher (see Appendix I). The adaptation of the summaries to the various ability levels of each class was left to the teachers' expertise. The occupational clusters included: health; marketing and distribution; public services; communications and media; transportation; personal services; business and office occupations; and recreation. These clusters were examined in terms of the nature of the work, working conditions, training and qualifications.

In January, the teachers were asked to review the questions and vocabulary on the Students' Attitude Towards Work Survey (see Appendix C). The children were asked to answer the questions and the results were examined as an indication of success in developing positive attitudes towards work. The survey consisted of 14 questions, requiring a yes or no response.

The third phase of this practicum was the exposure each month to one or more guest speakers who represented an occupation or occupations studied in the occupational cluster for the month. Each guest speaker was invited to visit in each fourth and fifth grade classroom for twenty to thirty minutes to discuss the nature of his work, the qualifications, skills and training necessary for that particular occupation and relate it to the students' curriculum. At the end of each presentation by a guest speaker, the students were permitted to ask questions of the speaker.

The fourth phase involved visits to various work sites by the students. They were invited to an internationally known pharmaceutical plant, a hospital, court house, a local police station, and a local firehouse. The children were able to see some of the guest speakers perform their jobs at their work site and were able to have a hands-on experience of that particular occupation.

The culminating activity for this program was a career fair in April. Many of the guest speakers were invited back again.

During the last month of the practicum, the occupational questionnaire (see Appendix D) was administered, the results were an indication that the students understood the training and entry requirements, as well as the various work places of the different occupations listed on the questionnaire. Most of the occupations of the questionnaire were part of the occupations in the eight clusters the children studied throughout the practicum. The questionnaire was reviewed with the class by the teachers. The questionnaire consisted of 19 occupations, a list of nine places and five educational levels. The students were required to match each occupation with one or more of the work places and one or more of the educational levels.

During this period, the students were asked to complete the Student Self-Evaluation form (see Appendix E) which consisted of eleven questions concerning the various aspects of career awareness they had learned.

Finally, during April, the Teachers' Attitude Questionnaire was administered to the teachers (see Appendix F). It consisted of ten questions concerning their attitudes towards the concepts in a career awareness program in which they participated.

CHAPTER V

RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Results

The first behavioral objective was that each fourth and fifth grade teacher would demonstate a greater awareness of career education opportunities in the curriculum areas and resources available in the community. The evidence of this awareness would be demonstrated on the Teachers' Career Awareness Questionnaire by obtaining a score of 32 or higher on a scale of 40 on this instrument. The results of the Teachers' Career Awareness Questionnaire were as follows (see Table 2).

Table 2

Teachers' Career Awareness Questionnaire
As An Indication of Teacher Awareness of Career
Educational Opportunities in the Curriculum Areas And
The Resources Available in the Community

Teacher	Score
1	32
2	34
3	36
4	37
5	32
6	39
7	35
8	32
9	33

Each of the teachers received a mean score of 32 or higher on the 40-point scale of the Teachers' Career Awareness Questionnaire. Most of the teachers either agreed or strongly agreed on most of the items on the form; however, the only disagreements occurred with teacher number one on items three and four and teacher number five on items three and seven (see Table 3).

Table 3

Teachers' Career Awareness Questionnaire
As An Indication of Awareness of Career Educational
Opportunities in the Curriculum Areas

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Overall Average
1	4	5	-	-	-	4.4
6	3	6	-	-	-	4.3
7	2	6	1	-	-	4.1
8	6	3	-	-	-	4.6

Item 1 refers to the building of a positive self-image as a major step towards career awareness. Item 6 deals with an inventory of students' strengths, talents, and interests which could be helpful in correlating these factors with occupational goals. The results were that all nine teachers either agreed or strongly agreed. Item 7 concerned consumer skills that would be helpful for adults, and eight teachers felt that these skills were important in a career awareness program. Only one teacher disagreed; therefore, the writer felt that these skills were important in a career awareness program. Item 8 concerned the integration of academic subjects with a career awareness program; here the writer obtained the most responses of strongly agree, which six teachers chose, and the writer found that the other three teachers agreed.

Item 8 had the highest overall mean of 4.6 out of a possible 5.0. The writer's conclusions were that the teachers agreed or strongly agreed on the overwhelming number of items. The conclusions indicated that they understood a need for building a positive self-image, and they needed to inventory students' strengths, talents, and interests as a helpful way of correlating these factors with occupational goals. Finally, teachers saw the need for consumer skills, and they very positively acknowledged the need for integrating academic subjects into a career awareness program.

Table 4

Teachers' Career Awareness Questionnaire
As An Indicator of the Importance of
Strengths and Interests Awareness

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Overall Average
2	3	6	0	-	-	4.3
3	2	5	2	-	-	4.0
4	3	5	1	-	-	4.2
5	4	5	0	-	-	4.4

Item 2 referred to the need for students to understand their strengths and weaknesses and accept them as they begin to develop positive self-images. All nine teachers agreed with Item 2, either strongly agreeing or agreeing with the concept, with the overall mean of 4.3 out of 5.0. Item 3 concerned occupational goals as they differ with an individual's varied abilities, values, attitudes and interests. Here, seven teachers gave positive responses to the concept, while two teachers responded negatively. Item 3 had the lowest overall mean of 4.0 out of 5.0. Item 4 concerned the importance of teaching interpersonal relationships as related to success in the workplace. Eight teachers responded positively, while only one responded negatively, and the overall mean was 4.2 out of 5.0. Item 8 concerned the importance of integrating academic subjects with a career awareness program, and the writer was pleased that the item received an overwhelming positive response and an overall mean of 4.6 out of 5.0. The conclusion the writer draws from the data is: the overwhelming opinion of the nine teachers was that the understanding and acceptance by the students of their strengths, interests and weaknesses are important. Once a student understands and accepts his/her strengths and weaknesses and interests, he/she could begin to correlate them with the various career clusters that he/she would study. In addition, there was general support for the concept that occupational goals may differ because individuals vary in ability, values, attitudes, and interests. However, two teachers disagreed with the concept, and the teachers felt that while the factors differ in each student, it was the educator's job to draw them out and develop them to the fullest. Further, they felt that the elementary level was too early to separate students when abilities, values, attitudes and interests were developing at different rates in each student.

Item 5 deals with early awareness of strengths and talents as a helpful way of making students aware of career opportunities. Item 5 received the overall mean of 4.4, and it was given a positive response by all nine teachers. The responses to items 2, 4, and 5 showed strong agreement to the following concepts: that it is important for students to understand and accept strengths and weaknesses, so that they may begin to develop a positive self-image; that interpersonal relationships are important for success in the workplace; and that the early recognition of strengths and talents can be helpful in a career awareness process that should begin in the elementary school level and develop through to the secondary level of education. Item 3 concerns the concept that goals and individuals may differ with individual and varied abilities, values, attitudes, and interests. The writer felt that the teachers were interpreting item 3 as a negative expression of labeling students, before they can be influenced by positive examples.

The second behavioral expectation was that each fourth and fifth grade student would demonstrate an awareness of his/her own strengths and talents. The writer proposed that awareness of the students' strengths and talents would be demonstrated by each student on the Students' Strengths and Talents Inventory. The measure of success would be in making students aware of their own strengths and talents by their ability to indicate eight strengths and talents on the Students' Strengths and Talents Inventory. The writer felt that the strengths and talents were varied and well-represented as indicated by the fact that all fourth and fifth graders were able to isolate eight strengths and talents from the twenty-five item questionnaire. Further, most of the strengths and talents were represented on the students' questionnaires (see Table 5).

Table 5

A Composite of the Results of Strengths and Talents Inventory

Item No.	Frequency of Selection	Item No.	Frequency of Selection
1	166	41	48
2	141	15	87
3	103	16	93
4	114	17	107
5	100	18	116
6	69	19	76
7	101	20	55
8	109	21	31
9	99	22	25
10	80	23	25
11	142	24	35
12	42	25	65
13	38		

An analysis of the 13 most frequently chosen items shows that the top three items chosen on the Strengths and Talents Inventory were dependability, pride, and accepts responsibility. The writer and the teachers felt that the message that these personal qualities were important for successful employment was successfully conveyed to the students. The students understood that these qualities were important, and they felt they possessed these qualities. The next group of items selected fourth, fifth, sixth, seventh, and eighth in frequency were good manners, ability to converse, honesty, respect for others, and patience. The next group of items are ninth, tenth, eleventh, twelveth, and thirteenth in frequency of selection, including full effort to tasks, cooperates with others, successful in school, care of personal property and a positive self-image.

The third expectation dealt with the ability of each fourth and fifth grade student to demonstrate a positive attitude towards work as a worthwhile, rewarding pursuit in life, and this would be demonstrated on the Students' Attitude Towards Work Questionnaire by answering eight out of the fourteen statements correctly (see Table 6).

Table 6

Students' Attitude Towards Work Questionnaire
As An Indication of the Students Positive
Attitudes Towards Work as a Worthwhile Pursuit

Class	No. of Students With 8 or More	Total Students
4-1	26	27
4-2	28	32
4-3	24	27
4-4	22	28
4-5	28	30
5-1	27	29
5-2	22	26
5-3	23	26
5-4	21	27
	221	252

The results as shown in Table 6 indicate that all of the nine classes involved in this practicum has 87% of their students responding correctly in eight out of the fourteen questions on the Students' Attitudes Towards Work Questionnaire. The writer felt that these results indicate an extremely high success rate in developing positive attitudes towards work in the students involved in this practicum. Further, three classes had well above that percentage of their students responding to eight or more questions correctly on this questionnaire.

Furthermore, the composite results of the responses to the fourteen questions, were as follows: (see Table 7)

Table 7

Composite Scores of All Students on the Students' Attitudes Towards Work by Item

Item No.	Pct. of Correct Answers	Item No.	Pct. of Correct Answers
1	86%	8	94%
2	85%	9	78%
3	77%	10	65%
4	83%	11	92%
5	71%	12	65%
6	75%	13	91%
7	75%	14	67%

The writer and the teachers determined that items 8, 11, and 13, which had the highest number of students responding correctly, were the attitudes that the students most readily accepted. These concepts included: that it was important to work as a means for providing for a spouse and children; that supporting oneself and one's family with honest work gives pride and dignity; that one must understand one's own strengths and talents before deciding on one's life's work. These responses indicate success was achieved in teaching the children that work was a worthwhile and rewarding pursuit in life, and work was beneficial for an individual and his family. Further, teachers were successful in conveying the idea that honest work always gives pride and dignity, regardless of the type of work.

Items 1, 2, and 10 were intended to indicate success in helping the children realize that all work is important to society's survival and honest work is always important, and they were also intended to show an understanding that all workers depend on other workers for their needs. The results show that 85% or more of the children responded correctly on items 1 and 2; however, on item 10, the percentage of correct responses fell to 65%. The teachers and the writer felt that the idea that society needed work done to survive and meet people's needs was successfully transmitted to the children, but the interdependency of workers on other workers was somehow not transmitted as well. The writer also believes that perhaps the phrasing of the question on item 13 may have confused some children. Items 3, 4, 5, and 6 concern the rewards of work and their relative importance. Item 3 attempts to determine whether or not the children realized a connection between a highly skilled occupation and relatively good lifestyle. On item 3, 77% or more of the students responded correctly, and the writer felt that it indicated a student's acceptance of the concept. Further, items 4, 5, and 6 attempted to determine the portion of children who understood that pride, fun and pleasure of one's work were important rewards and could be just as important as money or recognition. The percentages of correct answers on these items were 83%, 71%, and 75%, respectively. The writer and the teachers felt that the percentages indicated that a majority of students involved in the practicum understood the concepts, and the children were beginning to understand that there were more important aspects to consider than just money or recognition. Items 7, 9, and 14 concerned the children's understanding of: the relationship between education and training to the more desirable occupations; the rules and obligations involved with all work; and the need for interpersonal skills for success at work. This writer considers the 75% correct responses to item 7 a huge success, because it is a difficult concept for children of this age to understand that training and education were important to success in many occupations. Even the brighter classes, for instance, were amazed that doctors and lawyers require additional education beyond four years of college. Items 9 and 14 attempted to establish that rules and obligations correlate highly with more responsible occupations and that interpersonal relations were important to any occupation. The percentages of correct responses to these items were 78% and 67%, respectively, and the writer considered the results of item 9 to indicate success, while the results of item 14 showed a disappointing rate of understanding. Item 12 attempted to determine an understanding that responsibility and dependability were as important as work skills in any occupation. The children responded correctly 65% of the time; this was a disappointing percentage, because the lessons and speakers stressed dependability and responsibility for each occupation. But the writer believes that the children must develop their personal traits as they mature and by example, so there is time and opportunity for other educators to reinforce these concepts. Further, we must factor into our interpretation of this result that most of our children come from environments where few examples of these traits were present, and the educators, must use their enormous influence on their young minds to instill these traits by teaching and through example.

The fourth behavioral expectation was that each fourth and fifth grade student would be able to demonstrate an understanding of various occupational groups by matching work places and entry requirements with occupations successfully in ten out of the nineteen occupations on the questionnaire (see Table 8 on the following page).

Table 8

Composite Scores of All Students Who Score 10 or More on the Occupational Questionnaire, As An Indication of the Student's Understanding of the Entry Requirements and Workplaces of These Occupations

Class	No. of Students With 8 or More	Total Students
4-1	26	27
4-2	31	32
4-3	27	27
4-4	18	28
4-5	25	30
5-1	24	29
5-2	23	26
5-3	23	26
5-4	25	27
	222	252

Out of the total of 252 children who completed the questionnaire, 87% responded correctly. The writer felt that the results of this questionnaire concerning the entry requirements and workplaces of nineteen occupations which were studied during the course of the practicum were extremely successful.

The results show that of the nine classes that participated in this practicum, six classes had numbers of 23 out of 26 or better and one of those classes had all of their students with ten or more correct responses. As for the remaining three classes, two of these classes had 24 out of 29 and 25 out of 30 of the students responding correctly to ten or more of the items on the questionnaire. Only one of the three classes had a disappointing 18 out of 28 of their students responding correctly to ten or more of the items on the questionnaire. However, it should be noted that their regular teacher was absent for over a month and the bulk of the information was presented to the children by several substitute teachers throughout that time. The absence of the regular teacher may account for their less successful showing.

The writer noted that although the number of children who failed to respond correctly to ten or more items was within the same range, that is, 16 students in the fourth grade and 13 students in the fifth, it might have been considerably lower in the fourth grade if 4-3 had done better. However, the writer felt that the requirements and typical workplaces of the various occupations were understood by the children.

The fifth behavioral expectation asked each fourth and fifth grade student to demonstrate realistic thinking concerning occupational choices by a positive response to at least three of the following items on the Students' Self-Evaluation Questionnaire: 4, 5, 8, and 11 (see Table 9 on the following page).

The results show that the overwhelming majority of the children thought realistically about suitable occupations; in fact, five of the classes had all of their students responding correctly to these questions. The overall results show that in all nine classes, 95% of

Table 9

The Composite Results of the Number of Positive Responses on Items 4, 5, 8, and 11 on the Student's Self-Evaluation Questionnaire, As An Indication of the Student's Realistic Thinking About Suitable Occupations to Match Skills

Class	No. of Students With 3 or More	Total Students
4-1	27	27
4-2	30	32
4-3	27	27
4-4	25	28
4-5	29	30
5-1	29	29
5-2	26	26
5-3	26	26
5-4	21	27
Totals	240	252

most of the children thought realistically about suitable occupations; five of those classes had all of their students responding correctly on the questionnaire. These results far exceeded this writer's expectations for the children. The overall average of all the students tested who responded with three or more correct responses to items 4, 5, 8, and 11 was 95%, and that percentage far exceeded the writer's original expectations.

The sixth behavioral objective was that each fourth and fifth grader would demonstrate a positive attitude towards career education, and this would be demonstrated by at least six correct responses for questions 1, 2, 3, 4, 6, 7, 8, and

10, in addition to an overall score of 45 out of 55 on the entire questionnaire (see Tables 10 and 11).

Table 10

Composite Results of the Number of Students With Six or More Correct Responses on Items 1, 2, 3, 4, 6, 7, 9 and 10 on the Student's Self-Evaluation Questionnaire As An Indication of Positive Attitudes Toward Career Education

Class	No. of Children With 6 or More	Total Students
4-1	27	27
4-2	21	32
4-3	27	27
4-4	27	28
4-5	30	30
5-1	29	29
5-2	24	26
5-3	25	26
5-4	25	27
Totals	235	252

Table 11

Composite Results of the Overall Total Scores on the Student's Evaluation Questionnaire

Class	Mean Score For the Class	No. of Students Below 45
4-1	49	0
4-2	48	2
4-3	49	2
4-4	49	0
4-5	47	6
5-1	49	0
5-2	48	0
5-3	49	0
5-4	47	4

The results shown on Table 10 indicate that in all nine classes, over 90% of the students responded correctly to at least six of the eight items on the Students' Self-Evaluation Questionnaire. A correct response to items 1 and 2 would indicate that the student had a better idea of different types of occupations that existed and was thinking of several occupations that he might choose later in life. Positive responses to items 3, 4, 6, and 7 would indicate that the student had a positive attitude about work being an important part of adulthood, that one needs at least some training and/or education for all occupations, and that all work is worthwhile. Items 9 and 10 reflect an understanding that there was a relationship between what is learned in school and the skills needed at work, so that skills learned in school would be helpful in the work setting. Furthermore, the writer believes that the results were exceptionally good especially when considering the short duration of the practicum and the complicating factors, such as their environment and other negative forces. Nine classes had over 90% of the students responding correctly to at least six items, and four classes had 100% of the students responding to at least six of the items correctly.

Further, on the Students' Evaluation Questionnaire results show that the mean average scores on this instrument ranged between 47 and 49 (55 is the maximum score obtainable). This indicates that there were positive attitudes toward career education in the overwhelming majority of students involved. In fact, of the 252 students, only 14 failed to get a minimum score of 45, which represented half of one percent of the children tested. The group of students failing to receive the minimum, the writer believes, was an insignificant percentage and he must believe that the objectives were overwhelmingly met.

Finally, the seventh behavioral objective was for fourth and fifth grade teachers to demonstrate a positive attitude towards career education, so as to ensure their continued enthusiasm for the program beyond the practicum implementation. The writer determined that an indication of a positive attitude toward a career education program would be demonstrated by a score of 40 out of 50 on the Teacher Attitude Questionnaire (see Table 12).

Table 12

As An Indication of Teachers Positive Attitude Towards Career Education

Teacher	No. of correct Responses	Percentage of Correct Answers
1	46	92%
2	47	94%
3	44	88%
4	47	94%
5	45	90%
6	47	94%
7	46	92%
8	42	84%
9	47	94%

The mean score of 45 for all teachers who responded was beyond the goal of a score of 40 out of 50. The individual scores indicate that the teachers agreed with the statements on the questionnaire with a score beyond 80% on all of the teachers' questionnaires and beyond 90% in all but two cases. This is a further indication of the support and the value these teachers show towards a career awareness program. The majority of the teachers agreed that the program helped the students view work positively and the exposure to role models was sufficient. The majority also agreed that the children learned more realistic goals, entry requirements to many occupations and the nature of the work involved. All the teachers agreed that the children would benefit from additional resources on career awareness. Most teachers agreed that a link was established in the students between the things they learn in school and work, and all the teachers agreed the children benefitted from the program. Further, all the teachers agreed that this program should be expanded next year, and they were quite vocal about the administration renewing the program and funding it properly. The writer believes that, ultimately, this fact was the most significant indication of the teachers' positive attitudes towards this career education program.

Conclusions

Results of the Teachers' Attitudes Questionnaire and the Students' Self-Evaluation Questionnaires indicate that both formed positive attitudes towards career awareness training. Teachers gained an understanding that self-awareness, strengths and talents were important ingredients of the program, and the students discovered that self-awareness strengths and talents were important for determining career choices. Further, the children were given role models and taught individual occupational requirements, the nature of work in various occupations, and the factors which helped them to narrow career choices. The children learned that there is a definite relationship between the work they do in school and the skills needed for various occupations. The concept was reinforced by the speakers, who were generally effective and convincing. The classroom teachers' enthusiasm and the effectiveness of the majority of the guest speakers proved particularly valuable. Also of significant value were the younger minority guest speakers who grew up in the community or a similar type of socio-economic setting. They gave the students the models they needed to see and tangible proof that success is possible. In addition, they telegraphed their enthusiasm and pride in their achievements to the students. Equally important was that the children also understood that all occupations are important, worthwhile, require training and education, and that work is an important part of being an adult. In addition, the children needed to understand their strengths and talents and the requirements of various occupations in order to make realistic choices.

The overall results went beyond the expectations of the writer: all the behavioral expectations as measured by the evaluation instruments were met. The teachers clearly understood the importance of a career awareness program as a vital curriculum component which can be used as a vehicle for teaching other subjects. Similarly, the children learned through role models, occupational information, and workplaces that skills and information gained in school are helpful for work skills. The teachers began to instill in the children positive attitudes towards work and supporting their families. The career awareness program was effective, and is definitely needed in the lower socio-economic areas. Each teacher participant indicated a willingness to be involved in the program in the future and advance the advocacy of career awareness.

Recommendations

The writer recommends that a career awareness program continue with at least the fourth and fifth grades and could be expanded to include special education students, with the participation of resource personnel from other occupations and the inclusion of the central Board of Education personnel from the career education bureau. Also there should be the inclusion of additional workshops to prepare the teachers participating in the career awareness program, and should include lower grade teachers who would like to modify and use some of the career awareness materials with their children. The parents should be invited to participate in future career awareness programs, since this resource was not tapped sufficiently in this practicum. There should be a professional library with material to stimulate and encourage experimentation with career awareness projects. The staff should become involved in lobbying for additional state and city funding for supplies, materials, transportation, and other expenses.

Since the writer began the practicum, several other guidance counselors in the district have used some of the concepts and materials in this practicum.

Dissemination

During the research of the practicum, the writer used a resource person in the career education portion of the curriculum department of the City Board of Education. She was very helpful with materials, ideas and encouragement. She has agreed to use this completed practicum report as a guide for other guidance counselors throughout the city. In addition, the writer will be able to conduct a workshop for the purpose of orienting the guidance counselors throughout the city.

For wider dissemination of the practicum, it is the writer's aim to read a paper concerning the guidance counselor's role in career awareness at the state chapter of the American Association of Counseling and Development. The writer hopes to have parts of the practicum included in an article in the School Counselor or the Elementary School Guidance Counselor, and he hopes to have ERIC accept the practicum to include it in its service.

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APPENDIX A

TEACHERS' CAREER AWARENESS QUESTIONNAIRE

Circle the number that best describes your attitude toward the statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
1. Building a positive self-image can be a major step towards career awareness	5	4	3	2	1
2. When a student understands himself/herself, and accepts his/her strengths and weaknesses, they may have began to develop a positive self-image	5	4	3	2	1
3. Occupational goals may differ since each person may have varied ability, values, attitudes and interests	5	4	3	2	1
4. Teaching interpersonal relationships can be important to success in the workplace	5	4	3	2	1
5. Early awareness of strengths and talents can be helpful to student's career awareness	5	4	3	2	1
6. An inventory of students' strengths, talents and interests can be helpful in correlating these factors with occupational goals	5	4	3	2	1
7. Consumer skills may be helpful for adult life	5	4	3	2	1
8. It may be helpful to integrate academic subjects with a career-awareness program	5	4	3	2	1

APPENDIX B

STUDENTS' STRENGTHS AND TALENTS INVENTORY

Choose eight strengths or talents that most apply to you. Put a check next to the eight you choose. Please read all the choices before you choose.

____ 1. Dependable
____ 2. Accepts responsibility
____ 3. Patient
____ 4. Ability to converse
____ 5. Cooperates with others
____ 6. Accepts leadership
____ 7. Gives full effort to tasks
____ 8. Honest
____ 9. Successful in school
____ 10. Prompt
____ 11. Has pride
____ 12. Ability to persuade others
____ 13. Shows initiative
____ 14. Pride in appearance
____ 15. Positive self-image
____ 16. Cares for personal property
____ 17. Respects others
____ 18. Shows good manners
____ 19. Ability to draw
____ 20. Creative
____ 21. Questioning mind
____ 22. Concern for accuracy
____ 23. Interested in details
____ 24. Mechanical interest
____ 25. Mathematical ability

APPENDIX C

STUDENTS' ATTITUDES TOWARDS WORK

Check YES if you agree and NO if you disagree to these statements.

	YES	NO
1. All work is important for society to survive.	___	___
2. All honest work is important no matter what it is.	___	___
3. The kind of work you do never determines your life-style.	___	___
4. People like to do the kinds of work that are fun and give pride.	___	___
5. The least important things to reward work are money and recognition.	___	___
6. Pride in the work you do and the pleasure it gives you is as important as money.	___	___
7. Usually the more interesting jobs require less education or training and sometimes both.	___	___
8. It is important to work and provide for your spouse and children.	___	___
9. There are few rules and obligations to all types of work.	___	___
10. We do not depend on other workers for our needs and for the work we do.	___	___
11. Supporting ourselves and our families with honest work gives us pride and dignity.	___	___
12. Being responsible and dependable is not as important as work skills on a job.	___	___
13. We should understand our strengths and talents before deciding the kind of work we would like to do.	___	___
14. Getting along with people is not important for success at work.	___	___

APPENDIX D

OCCUPATIONAL QUESTIONNAIRE

For each occupation, pick one letter from TRAINING & ENTRY REQUIREMENTS and pick one number from the list of WORK PLACES. Each can be used more than once.

Training & Entry Requirements

A. Professional School
B. College Education
C. Trade School
D. On-the-Job Training & H.S.
E. No Educational Requirements

Work Place

1. School
2. Garage
3. Office
4. Court
5. Store
6. Firehouse
7. Hospital
8. Homes
9. Street
10. Truck

	Training	Workplace
Teacher		
Electrician		
Secretary		
Lawyer		
X-Ray Technician		
Doctor		
Paralegal		
Accountant		
Pharmacist		
Fireman		
Police		
Guard		
Truckdriver		
Typist		
Salesman		
Nurse		
Teacher Aide		
Drafter		
Engineer		

APPENDIX E

STUDENT SELF EVALUATION FORM

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
1. I now have a better idea about many different kinds of work	5	4	3	2	1
2. I have an idea about the type of work I would like to do	5	4	3	2	1
3. I understand that working is an important part of being an adult	5	4	3	2	1
4. I know more now about the education and training I need for the work I would like to do	5	4	3	2	1
5. I have changed my mind many times since I began to learn about different types of work	5	4	3	2	1
6. I think that all work is important and worthwhile to the community	5	4	3	2	1
7. All work requires some kind of training and education	5	4	3	2	1
8. I know my strengths and talents more clearly after this career program	5	4	3	2	1
9. I can see a relationship between what I learn in school and the world of work	5	4	3	2	1
10. Many of the skills I learn in school will be useful when I work	5	4	3	2	1
11. I have learned to match my skills and talents with work I may be able to do	5	4	3	2	1

APPENDIX F

TEACHER ATTITUDE QUESTIONNAIRE

Circle the number that best describes your attitude towards the statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
1. This program did help the children view work as more positive	5	4	3	2	1
2. The children exposed to a sufficient role models of different occupational choice	5	4	3	2	1
3. The children have been able to learn to be more realistic about their goals in life	5	4	3	2	1
4. The children were taught more about entry requirements of many different occupations	5	4	3	2	1
5. The children were more aware of the nature of the work in occupations they might desire	5	4	3	2	1
6. The children benefitted from the additional resources on career awareness	5	4	3	2	1
7. Most children see some relationship between their academic subjects	5	4	3	2	1
8. Most children benefitted from participation in the career awareness program	5	4	3	2	1
9. Most children are beginning to think about a variety of occupations they might be suited for	5	4	3	2	1
10. This program should be expanded and continued next year	5	4	3	2	1

APPENDIX G

CAREER AWARENESS AND SELF-AWARENESS LESSONS

I. SELF CONCEPT

1. A wall in the room is reserved for "Student of the Week or Month." Each week or month a person or persons are selected for their performance academically and socially.
2. Another wall can be reserved for good citizens honor roll, honoring the most helpful and considerate students.
3. The teacher should discuss the qualities of students who are selected for either award and the reasons for their selection.
4. Students can determine other categories for giving rewards. A committee can be selected so that each student in the class will be selected

II. PERSONAL CHARACTERISTICS important for success

Personal characteristics for school and work:

A. Appearance:
   1. grooming
   2. dress
   3. physical characteristics:
      a. complexion
      b. speech
      c. body condition
      d. diet

B. Personality:
   1. emotional stability
   2. patience and cooperation with others
   3. ability to converse
   4. acceptance of praise and criticism

C. Social skills:
   1. being a good listener
   2. ability to follow directions
   3. successful interaction with others
   4. following through on assignments

D. Job and work:
   1. accepts responsibility
   2. expend efforts to complete tasks

3. pride for the quality of work
4. attendance, promptness, and dependibility
5. honesty

Have the children rate themselves on these qualities and then ask the class to judge each person.

III. DEVELOPING A POSITIVE SELF-CONCEPT

Have each child respond by completing each sentence:

1. My family and friends think I am...
2. My school is...
3. I am best at...
4. I am happiest doing...
5. The thing that makes me sad is...
6. I would like to be...
7. The work I would be happiest doing is...
8. My best quality is...
9. I spend my leisure time...
10. The person who is(was) influential in my life is(was)...

IV. SELF-AWARENESS

Have the children write an autobiography answering the questions below:

1. Have the children choose one person who was influential in their lives

2. Have the children choose one sport or activity that made a deep impression in their lives

3. Have the children choose the most important moment in their lives. Explain why it was important.

4. Have the children express fear or concern.

5. Have the children explain a happy moment in their lives

6. Have the children tell their favorite activity and least favorite activity

V. SELF-AWARENESS

Discuss with the children the following:

1. All people have dignity and worth.

2. All people differ in ability, values, attitudes and interests. Their occupational goals may differ in requirements and prospect.

3. Helping students to understand and accept themselves. Realizing that they must constantly develop and that this process will be effected by experiences throughout one's life.

4. Helping students understand that everyone has several different roles in relation to the people and situations they experience in life.

5. Developing an understanding in the student that any occupation that contributes to our society is worthwhile and dignified.

6. Helping the students understand that their skills and interests could lead to worthwhile and dignified occupations.

VI. RELATIONSHIP WITH OTHERS

1. Discuss effects of positive and negative behavior on others.

2. Ask the students to list ten negative and ten positive character traits they possess.

3. Discuss with the student the attitudes and character traits that help us to succeed in school and work.

4. Have students complete these activities:

   a. make two goals and give proof of achievements

   b. have the students interview a person to find out:

      i. why the job is important to them
      ii. whether they feel successful
      iii. what traits and attitudes contribute to their success
      iv. what gives him/her pride about their occupation
      v. what is their favorite part of the job; least favorite

VII. AWARENESS OF PERSONAL CHARACTERISTICS

1. Discuss words that might describe personal characteristics.

    a. what makes us different
    b. what traits would you use to describe yourself to an alien being
    c. have the student list ten characteristics about themselves
    d. then fold the list, place them in a box and then select one list at a time. Have the students try to identify the person who wrote the list

VIII. UNDERSTANDING SELF

Have the children complete and discuss these open-ended sentences:

1. My favorite activity is...
2. My life's goal is...
3. My least favorite activity is...
4. I like people because...
5. I like being alone when...
6. My most important skill is....
7. My favorite subject is...
8. My least favorite subject is...
9. I would like to be a...
10. I am always...

IX. SOCIAL SKILLS

1. Discuss the proper way to introduce yourself and others in a social and business situation.

2. Select a group of students each day and have them introduce themselves to the class. Also create social circumstances.

3. Have the class evaluate their performances.

4. Discuss how the students could improve their introductions.

5. Discuss the importance of speaking clearly and smoothly and being poised

6. Discuss the importance of social etiquette in school, work and life.

X. SELF-AWARENESS

I'm interested in:

1. money
2. doing something interesting
3. helping others
4. being self-employed
5. being secure
6. getting a good job
7. having fun at work
8. using my skills and interests in my job

Concerning interests, I'm interested in:

1. indoor/outdoor activities
2. working with machines
3. working with people
4. working with my hands
5. working with facts
6. working with numbers
7. doing office work
8. written work

Discuss these interests and concerns with the students and discuss their answers.

XI. SELF-AWARENESS--LEARNING STYLES

Discuss learning styles and the different ways people learn.

How I learn Best:

1. I'm most attentive to new things in the:
   a. morning
   b. after lunch
   c. evening

2. The best way for me to learn is to:
   a. read it
   b. hear it
   c. see it
   d. try it
   e. put it into my own words
   f. using it in other ways

3. The situation where Ilearn least is:
   a. big groups
   b. small groups
   c. working with the teacher

d. working by myself
e. working with peers

XII. SELF-AWARENESS

Using drawings or magazine pictures, to complete the following sentences.

1. Things I like to do...
2. Things I find difficult with...
3. Things I dream about...
4. What I fear...
5. Things that make me happy...

Having the students write a paragraph about each of the following sentences.

1. What I want to be.
2. How I want to change the world.
3. Ten things I like to do.
4. Why it is important to succeed.
5. Ten wishes for myself, my family and my community.

XIII. SELF-AWARENESS -- VALUES AND INTERESTS

Have the students answer these questions and discuss.

1. Homework is important because...
2. The reason for going to school is....
3. If I had a machine that can do anything, I would have it do...
4. If I can change myself, I would...
5. My plan for the future is...

XIV. SELF-AWARENESS

Discuss these statements with the students:

1. I would like to be known as...
2. I am best at...
3. If I had $20, I would...
4. My favorite person is...
5. I respect a person who...
6. The most important thing in the world is...
7. My biggest contribution was...

XV. GOOD CONSUMER HABITS

Have the children bring in ads concerning several items of varying prices from different stores.

1. Calculate differences in cost and indicate best buy.

2. Ask the students to discuss:
    a. what is meant by shopping wisely
    b. the difference in price and quality
    c. why a consumer should be concerned with price and quality differences
    d. why we should shop wisely for ourselves and for a company
    e. discuss careers that are concerned with shopping wisely

XVI. MONEY MANAGEMENT

Begin a class economy by giving students $15 in play money for each day they attend school. Each student may either save the money or spend it on privileges. Cash fines will cost them set fees, for breaking class rules. The privileges that will have dollar costs on them, as established by the class. The teacher can establish checking and savings accounts for each student. The management of this system will be administered by the students, with every student given a job, such as banker, bookkeeper, attendance supervisor, judge, lawyer, police, etc.

XVII. OCCUPATIONAL AWARENESS

Discuss the following with your students:

1. Any occupation requires some sort of skill or training.

2. All workers contribute their skills and talents to society.

3. A person's work often affects their lifestyle.

4. Basic subjects that students learn in school have a relationship to work.

    a. Every occupation requires basic skills and training
    b. Skills taught in learning basic subjects can result in acquiring an occupation and for enjoying life
    c. Basic skills are important for developing competencies that are important for occupational development
    d. Communication skills, reading, writing, diction, spelling, grammar, which are covered through basic subjects can result in meaningful and productive jobs

e. The quality, quantity, and types of skills acquired often effects the occupations available to you.

XVIII. SOCIETY NEEDS

1. Discuss and research the following people:

    a. Louis Armstrong, trumpet player
    b. Dean Dixon, symphonic conductor and composer
    c. Nat King Cole, jazz singer
    d. Martin L. King, civil rights, clergy
    e. Jackie Robinson, baseball player
    f. George Washington Carver, scientist
    g. Percy Julian, chemist
    h. Mary McLeod Bethune, educator
    i. Langston Hughes, poet

2. Throughout this activity, the teacher should discuss the concept that society needs the labors of all its people.

XIX. UNDERSTANDING LIFE STYLES

1. Teacher should discuss the meaning of life-style.

2. Have the students look through magazines for pictures of people with different life-styles

3. Have each student complete a life-style collage. Then have the students display their collages in the room.

XX. INTERVIEW

1. Have the students pick someone to interview whose job is interesting.

2. Have them ask:

    a. What are the training and skills necessary for the job? How long did it take to acquire those skills?

    b. What circumstances caused you to choose your occupation?

    c. What do you like most about your job? What do you like least?

d. What would you like to change concerning your choice of occupations.

XXI. Discuss the meaning of the words on the list and then have the students rate themselves on a scale of 1 through 5, 1 being excellent and 5 being very poor.

1. neat
2. accurate
3. prompt
4. takes pride in work
5. friendly
6. works well with others
7. logical
8. works independently
9. helpful
10. able to follow directions

XXII. POSITIVE ATTITUDES TOWARD WORK

Discuss with students the following:

1. People need to work to advance society
2. People get rewards, pride and satisfaction
3. There are rules for all work settings
4. All work has dignity and, therefore, worthwhile
5. Work involves either a product or service

XXIII. NATURE OF WORK

Discuss:

1. Man's work determines his standard of living
2. Commitment to education and work often limits leisure time
3. Satisfaction with work often relates to developing a speical skill and pride in providing a service or product
4. Work has its own rewards and satisfaction
5. It is important to gain skills and talents that will help you find employment

XXIV. INTERPERSONAL RELATIONSHIPS

Choose an activity that involves an assembly line activity. Explain that it requires cooperation. Find an assembly line activity that requires several operations, like collating a book, etc. Give each student an operation on the assembly line or a support activity. Discuss with the students the following:

1. operation among workers
2. production quotas
3. division of labor
4. mass production
5. overhead/per unit costs
6. profit: gross and net
7. pride associated with a joint effort
8. efficiency and quality

XXV. SELF-AWARENESS

The names of three people you admired on a sheet of paper, then under their names list four qualities you like about each of them. Given your reason for liking these qualities. Put the qualities that you would like to see in yourself.

XXVI. DISCOVERING ABILITIES

1. My two best subjects in school are?

2. My two most difficult subjects in school are?

3. I easily get along with people.

4. I am good at understanding facts, opinions, concepts.

5. I am good at arithmetic and problem solving quickly and accurately.

XXVII. INTERESTS AWARENESS

Subjects in School

Subjects I like:	Possible jobs:
____________________	__________________
____________________	__________________
____________________	__________________
____________________	__________________

Activities I enjoy taking part in:

1. ______________________________

____

2. ______________________________

____

3. ______________________________

____

What have I learned about my strengths and interests that will help me choose a career?

XXVIII. SELF-AWARENESS

How would I describe myself?

___ careful
___ generous
___ honest
___ creative
___ competitive
___ interesting
___ warm
___ humorous
___ lazy
___ bossy
___ humorless
___ appealing
___ trustworthy
___ sad
___ intelligent
___ forgetful
___ thoughtful
___ talkative
___ easy going
___ cruel
___ caring
___ proud
___ self-centered
___ hard working
___ loud
___ shy
___ wise
___ respectful
___ accepting
___ proper
___ energetic
___ dedicated
___ dependent
___ fair
___ jealous
___ moody

XXIX. VALUES

Discuss these concepts and have students put a check next to the values they agree with most:

___ get ahead

___ independent

___ pride

___ knowing the "right" people

___ live for the moment

___ making money

___ living well

___ helping others

___ winning

___ honesty

___ build things; create

___ self-respect

___ being accepted

___ being educated

___ working hard

___ being tolerant

___ standing up for my views

XXX. SHIPWRECKED

You are shipwrecked and are washed up on an island. You find 14 natives, and you must start a new society. List 15 occupations for you and the 14 natives to contribute to this new society.

1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________
7. ____________________
8. ____________________
9. ____________________
10. ____________________
11. ____________________
12. ____________________
13. ____________________
14. ____________________
15. ____________________

Note: What offices, shops, stores, etc., would you create.

APPENDIX H

TEACHERS' SURVEY OF NEEDS

Circle the number that best describes your attitude towards the statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
1. Our children have a negative view towards work	5	4	3	2	1
2. Our children need to be exposted to many role models of different occupational choices	5	4	3	2	1
3. Our children should learn to be realistic about their goals in life	5	4	3	2	1
4. Our children should know more about the entry requirements of many different occupations	5	4	3	2	1
5. Our children should be aware of the nature of the work in occupations they might desire	5	4	3	2	1
6. There is value in having more done to make them aware of different occupational entry requirements	5	4	3	2	1
7. It would be of value to have more done to make our children aware of the nature of work in a variety of occupations	5	4	3	2	1
8. Our children would benefit from additional resources on career awareness and work appreciation	5	4	3	2	1
9. Our children would benefit from participation in a career awareness program in this school	5	4	3	2	1
10. A career awareness program which integrates the academic areas, as well as trips, assembly programs, geared to career awareness and a career day would be a valuable component to our educational program	5	4	3	2	1

Appendix I

CAREER DESCRIPTIONS

TRUCKDRIVERS

Nature of the Work:

Nearly all goods are transported by trucks during some time in their journey from producers to consumers. Goods may also be shipped between terminals or warehouses in different cities by trains, ships, or planes. But trucks usually make the initial pick-up from factories, consolidate and deliver goods from terminals to stores and homes.

Before leaving the terminal or warehouse, truckdrivers check their truck for fuel and oil. Once underway, drivers must be alert to prevent accidents and to drive their trucks efficiently. Long-distance runs vary widely. On a short run, truckdrivers deliver a load to a nearby city and pick-up another load, usually the same day. Long distance drivers go to different cities or even different parts of the country.

Working Conditions:

Truckdriving has become less physically demanding because most trucks now have more comfortable seats, better ventilation and improved cab designs. Truckdrivers work 48 hours or more a week. Many who handle food for chain grocery stores, produce markets, or bakeries drive at night or early morning. Some work requires considerable lifting, carrying and walking. A work day may be 12 hours long; drivers on long runs may face boredom and fatigue.

Training and Qualifications:

Qualifications for truckdrivers vary considerably, depending upon the type of truck and the nature of the employer's business. Most states require drivers to have a chauffeur's license. The U.S. Department of Transportation requires minimum qualifications for truckdrivers: being at least 21 years old; in good physical health; good hearing and vision; normal mobility of arms and legs; and normal blood pressure. Some states add specific height and weight limitations. Many employers require a high school education; driver-training courses; and knowledge of automotive mechanics.

Several technical and vocational schools offer truckdriving courses and is the usual way of entering the occupation. Another entry method of entering truckdriving is to start as a dockworker, loading and unloading freight. In this job, a person can get a general idea of the trucking operation. Then as a truckdriver position develops, the dockworker can be promoted.

TEACHERS

Nature of the Work:

Elementary and secondary school teachers play a vital role in the development of children and adolescents. What is learned in these early years can shape children's views of themselves and the world, and affect later success or failure at work.

Elementary school teachers introduce children to the basics of mathematics, language, science and social studies. They attempt to develop good study habits, an appreciation for learning, while monitoring children's performance and evaluating their potential. Teachers use film, slides, computers and instructional games to help children learn. Teachers must also keep track of their students' social development. They observe the children's behavior and discuss their problems.

Most elementary teachers teach a group of children in several subjects, while providing individual attention. An increasing number of elementary school teachers specialize in one or several subjects. Much of a teacher's work is done inside the classroom. However, preparing lessons and grading papers are usually done at home. Further, attending faculty meetings and supervising extracurricular activities are some of the things done outside the classroom. To remain current with new educational materials and teaching techniques, they attend workshops and attend classes in colleges and universities.

Secondary school teachers help students delve more deeply into subjects introduced in elementary school and learn more about themselves and the world. They teach a specific subject, such as English, Mathematics, History, or Biology. For each class, teachers develop lessons, as well as prepare, give and grade examinations.

Secondary teachers develop their classroom presentation to meet individual needs and abilities of as many as 150 students in five different classes. In addition to classroom duties, secondary school teachers oversee study halls, homeroom, supervise extracurricular activities and attend meetings with parents and school personnel. They participate in workshops and college classes to keep up to date in their subject and general developments in education.

Teachers spend much of their time standing or walking. Teachers may have to deal with disruptive, disrespectful and sometimes violent children. This can be both physically and emotionally taxing.

Most teachers work much longer than the traditional 40 hour week, but most have a 10-month work year with a two month vacation. However, many teachers teach in summer school or take other jobs. Many enroll in college courses or special workshops. In most states a teacher works a minimum of 180 days a year.

Most states have tenure laws that protect their jobs. Normally a teacher will serve a probationary period of three years before getting tenure. Tenure provides a protection against being fired from their jobs.

Training and Qualifications:

All 50 states and the district of Columbia require elementary and secondary school teachers to be certified by the state education authorities. Generally, certification is granted by the State Board of Education or the State Superintendent of Education.

Elementary teachers obtain certification in early childhood grades, elementary, special education, or reading. Secondary teachers obtain certification in a specific subject area. All states require a bachelor's degree, with a prescribed number of credits in their subject area. Many states require student teaching and other professional education courses. Many states require teachers to obtain graduate degrees within a certain time.

Teachers should be creative, dependable, patient and competent in handling classroom situations. They should be able to understand and be interested in the educational and emotional development of children. In addition, secondary teachers must be knowledgeable in their subject area. All teachers should be able to motivate students.

TEACHERS' AIDES

Teacher aides handle routine activities to give teachers more time to teach. They help supervise students and record grades. Teacher aides have a variety of responsibilities depending on the school district. These responsibilities include helping with instructions, working with students in small groups, helping them find information and helping with special projects. In some districts, they do non-teaching tasks such as grading papers, checking homework, and keeping records. Many teacher aides work part-time. Their work is usually indoors, standing much of the time. Teacher aides can find the job physically and emotionally draining.

Training and Qualifications:

Educational requirements for teacher aides vary; most school districts require a high school diploma, some require college training. Districts that delegate a significant amount of classroom responsibility to aides usually require more training than those with primarily clerical or monitor duties.

Teacher aides generally receive their training for classroom work on the job. Many two-year colleges offer degree programs that prepare graduates for classroom assignments.

Newly hired teacher aides receive orientation and training sessions. They may need to operate audiovisual equipment, keep records, and prepare bulletin boards. Personal traits for teacher aides are the ability to work with children and to handle classroom situations, with fairness and patience. Teacher aides should demonstrate initiative and a willingness to follow the teacher's directions.

Teacher aides can usually advance to teaching positions with a bachelor's degree.

LIBRARIANS

Nature of the Work:

Librarians help people find information. They are a link between the public and millions of books and other information by organizing material and making it available to them.

Public librarians serve people of all ages and from all occupations. Public librarians give materials and services to all groups. School librarians teach students how to use the school library and media centers. Working with teachers and media experts, school librarians show students how to use the vast resources of the library system. They select books and material for the library, order them and organize the material in the library. School librarians work closely with classroom teachers concerning curriculum.

In large high schools, librarians specialize in several areas, there libraries include large collections of films, tapes, records and other material.

Training and Other Qualifications:

A masters degree in library science is necessary for most beginning positions. Most graduate schools of library science require a college degree with a liberal arts background. Most states require school librarians to be certified teachers, and have a masters degree.

Some states require certification of public librarians as well. Librarians work a five day, 40 hour week. They must deal with people all day long, which can be tiring. The job requires standing, stooping, bending, and reaching. Librarians must have good eye-sight, knowledge of computers, enjoy detailed work, and dealing with people.

LAWYERS

Nature of the Work:

In our society, lawyers act as both advisors and defenders of our laws. As defenders they help opposing parties in criminal and civil trial by giving arguments that support each side in a court of law. As advisors, lawyers help their clients with their legal rights and obligations, they suggest courses of action in business matters. Whether they are advisors or defenders, lawyers interpret the laws. This requires research into the purpose of the laws and other court decisions that have applied laws in cases similar to the ones the lawyer is facing.

Lawyers must deal with people in a polite and efficient manner. Because of their position of trust, they can't discuss with others information they have discussed with their clients. Lawyers must write reports or briefs which must present their cases clearly and precisely.

While some lawyers never appear in court, others specialize in trial work. These lawyers must have exceptional ability, think quickly, and communicate with authority.

Other lawyers work only for a utility or insurance company, while others work for themselves and specialize in wills, trusts, contracts, mortgages, and leases. A great many lawyers work for government at various levels.

Lawyers do most of their work in offices and courtrooms.

Most lawyers work long hours, doing research into laws, talking with clients and preparing contracts or briefs. There is heavy pressure to come up with solutions. Lawyers must keep up with the newest laws and other information; therefore, they must do a great deal of reading.

Training and Qualifications:

To practice law a person must be admitted to the legal organization called the bar of the state. To be admitted to the bar a person must pass a test called the bar admission test. To qualify for the test, most states require completion of four years of college and graduation from a law school. Lawyers must not only understand the words of a law, called a statute, but understand the effects of the law or statute on peoples' lives. The lawyer must interpret the laws and how it applies in a particular situation. Lawyers must deal with people in a courteous, effective and skillful manner.

LEGAL ASSISTANTS

Nature of the Work:

Legal Assistants do the work that does not require a lawyer. A legal assistant can perform almost all the jobs of a lawyer except setting fees, giving legal advice or representing a person in court.

Legal assistants do the research in preparing a case, investigate the facts of the case to make sure that all important information is uncovered. The legal assistant conducts research to find laws and judicial decisions and other materials that will decide whether the client has a good case or not. After the legal assistant finds the information, he writes a report used by the lawyer to decide how the case should be handled. If the lawyer decides to continue with the lawsuit, the legal assistant may prepare the arguments and assist the lawyer during the trial.

Besides trial work, legal assistants may help to draw documents such as, contracts, mortgages, trusts, and divorces. Legal assistants who work for corporations help lawyers handle corporate matters such as: employee contracts, stock option plans and employee benefit plans.

The duties of a legal assistant in government include analyzing legal materials, maintaining reference files, conducting research for lawyers, and collecting evidence for hearings. Most legal assistants work for large legal firms, government agencies and corporations. They can specialize in one of the areas of law.

Legal assistants do most of their work at desks in offices and law libraries. They work 40 hours a week, sometimes longer, sometimes alone or with others. Legal assistants often work under pressure to meet deadlines.

Training and Qualifications:

Legal assistants may enter the profession in several ways. Legal secretaries may advance to legal assistants after several years experience and some additional schooling. However, increasingly law firms hire graduates from 2 and 4 year colleges. Legal assistants must be able to handle legal problems logically and effectively, communicate with clients and lawyers. They must understand legal terms, have good research skills and investigative skills. They must be courteous and have high ethical standards.

LEGAL SECRETARY

Nature of the Work:

Legal secretaries are at the center of communications within any legal office. They process and transmit information to the staff and to other organizations. Secretaries perform a variety of administrative and clerical duties so that their employers can work on other matters. They schedule appointments, give information to callers, organize and maintain files, fill out forms, and take and transcribe dictation. Much of a legal secretary's time is taken preparing legal papers and correspondence such as summones, complaints, motions, and subpoenas.

Working Conditions:

Secretaries usually work in offices that are clean, well lighted, and free from high noise levels except during peak typing periods. Their jobs often involve sitting for long periods, and typing often requires working materials that are difficult to read. Most work a standard 40 hour week.

Training and Other Qualifications:

Most employers require a high school education and many want post secondary education. Legal secretaries must be proficient in typing and good at spelling, punctuation, grammar, and oral communication. Shorthand is necessary for some positions. Word processing experience is increasingly important and some employers require it.

The skills needed for a position as a legal secretary can be acquired in various ways. Training varies from high school vocational education programs that teach office skills, shorthand, and typing to one to two year programs in business schools, vocational institutes, and community colleges.

Employers look for good command of the English language and an aptitude for numbers. Many look for individuals with interpersonal skills, who are tactful in their dealings with many different people. Discretion, judgment, organizational ability, and initiative are important for the more responsible legal secretarial positions.

PHARMACISTS

Nature of the Work:

Pharmacists dispense drugs and medicines prescribed by doctors and dentists. They also supply information and advice to people on the use of prescription medicines and medicines that can be obtained without prescriptions. Pharmacists must understand the use, composition, and effect of drugs and how they are tested for purity and strength. They maintain patient's medication records. Compounding of medicines, an important part of a pharmacist's job, is the actual mixing of ingredients to form tablets, capsules, ointments, and solution. They also sell and advise the public concerning medical and surgical supplies, as well as health care accessories.

Pharmacists working in clinics and hospitals dispense inpatient and outpatient prescriptions and advise the medical staff in the selection and effects of drugs. They also buy medical supplies, teach in schools of nursing and allied health professions, and perform administrative duties.

Working Conditions:

Pharmacists work in a clean, well-lighted and well-ventilated area. Shelves are lined with hundreds of different drug products. Some items are refrigerated and all controlled substances are locked up.

About 20% to 25% of all pharmacists own their own businesses. The others work in salaried positions in small business or large organizations. The rest work for hospitals, pharmaceutical manufacturers, wholesalers, government, and educational institutions.

Training and Other Qualifications:

A license to practice pharmacy is required in all states, the District of Columbia, and Puerto Rico. To get a license, you must graduate from an accredited pharmacy program, pass a State board examination and serve an internship under the supervision of a licensed pharmacist. Graduation from an accredited school of pharmacy is a requirement for taking the boards. Admission requirements for a school of pharmacy vary, a few colleges admit students directly from high school. Most colleges of pharmacy, however, require completion of one or two years of pre-pharmacy education, from an accredited junior college or college. A pre-pharmacy curriculum usually includes mathematics, basic science, such as chemistry, biology, and physics.

REGISTERED NURSE

Nature of the Work:

Registered nurses (R.N.) perform a wide variety of health care functions. They observe, assess, and record symptoms, reactions, and progress of patients; administer medications; assist in the rehabilitation of patients; instruct patients and family members in proper health maintenance care; and help maintain a physical and emotional environment that promotes recovery. Some R.N.'s administer community health programs, conduct research, or teach.

Hospital nurses are by far the largest group of nurses. They provide skilled bedside nursing care and carry out the medical regimen prescribed by physicians. They may also supervise licensed practical nurses, aides, and orderlies.

Private duty nurses give individual care to patients who need constant attention. They may work in a home, a hospital, or a convalescent home.

Working Conditions:

Nurses generally work indoors in well-lighted, comfortable buildings. Community health nurses may be required to travel to patients in all types of weather. Although most nursing tasks are not strenuous, nurses need physical stamina because they spend considerable time walking and standing. Emotional stability is required to cope with human suffering and frequent emergencies. Because patients in hospital and nursing homes require care at all times, staff nurses in these institutions may have to work nights, weekends, and holidays.

Training and Qualifications:

To obtain the license to practice in all 50 states, nurses must graduate from an approved school of nursing and pass a national examination. Nurses may be licensed in more than one state.

Nursing training programs vary in length from two to five years after graduation from high school, depending on the program. All training programs include classroom instruction and supervised nursing practice in hospitals and other health facilities. Students take courses in anatomy, physiology, nutrition, psychology, and nursing. They also get supervised clinical experience in the care of patients who have different types of health problems.

Persons who want to pursue a nursing career should have a sincere desire to serve humanity and be sympathetic to the needs of others. Nurses must be able to accept responsibility and direct or supervise the activity of others; they must have initiative, and in appropriate situations, be able to follow orders precisely or determine if additional consultation is required; and they must use good judgment in emergencies.

RADIOLOGIC TECHNOLOGIST

Nature of the Work:

The people who operate radiologic equipment are called radiologic technologists or radiographers. Most technologists operate equipment that is used for diagnostic imaging: X-ray machines, fluoroscopes, computed tomography scanners, and ultrasonic scanners. These workers are still known as X-ray technologists in some places. However, as imaging technologies based on concepts other than X-ray exposure have come into use, radiologic technologist or radiographer has become the standard job title. Radiation is now an important tool for the treatment of disease as well as for diagnosis, and therefore, this function has a different job title.

Before a radiologic technologist can perform any work on a patient, a physician must issue a requisition for the work. Similar to prescriptions for drugs, these requisitions assure that radiologic technologists examine or treat only people certified by physicians as needing such studies or treatment. At all times, technologists must follow precisely not only physicians' instructions but also regulations concerning use of radiation to insure that they, patients, and co-workers are protected from its dangers.

Because radiologic technologists often work with patients who cannot help themselves, good health, moderate strength, and stamina are important. A sympathetic and understanding manner is helpful, for technologists need to give instructions and explanations to patients who often are worried and anxious. Patients may be very ill or dying. Radiation therapy technolotists in particular are called upon to develop a close and compassionate relationship with patients and their families.

In addition to the duties involved in preparing patients and operating equipment, technologists may have administrative tasks. They may prepare work schedules, evaluate equipment, and, in general, manage ultrasound departments or facilities.

Working Conditions:

Radiologic technologists generally work a 40 hour week that may include evening and weekend or on-call hours. Technologists are on their feet a lot and may be required to lift or turn disabled patients.

There are potential radiation hazards in this field; however, these hazards have been reduced by the use of safety devices such as instruments that measure radiation exposure, lead aprons, gloves, and other shielding. Because of the presence of radiation and radioactive materials, technologists wear special badges while they are in the radiation area. The badge measurement rarely approaches or exceeds established safety levels because of safety programs and built-in safety devices.

Training and Qualifications:

Preparation for this field is offered at the post-secondary level in hospitals, medical centers, colleges, and universities, trade schools, vocational-technical institutes, and the Armed Forces. Hospitals, which employ most radiologic technologists, prefer to hire individuals who have completed a formal training program. Technologists employed in physicians' offices may be trained on the job, however.

Training programs range in length from one to four years and lead to a certificate, associate degree, or bachelor's degree. Two year programs are the most popular. Radiography programs require, at a minimum, a high school diploma or the equivalent. High school courses in mathematics, physics, chemistry, and biology are helpful. The programs provide both classroom and clinical instruction in anatomy, physiology, patient care procedures, physics, radiation protection, principles of imaging, medical terminology, positioning, medical ethics, radiobiology, and pathology. Twelve states require licenses in radiology.

ENGINEERS

Nature of the Work:

Engineers help to apply theories of science and math to practical problems. Engineers design machines, products, and systems. They help develop electric power, water supply, and waste disposal. They design machinery and equipment for heating and air conditioning; they develop machinery to explore outerspace, and to manufacture weapons for the Armed Forces. Engineers help design and supervise machines that produce products we buy. Engineers use calculators and computers to solve mathematical problems which describe how a machine, structure or system operates. Engineers also spend a great deal of time writing reports and consulting with other engineers. Complex projects require many engineers, each working with a small part of the job.

Working Conditions:

Some engineers work at desks in an office almost all the time. Others work in research laboratories, industrial construction sites, and solve on-the-job problems. Some engineers travel extensively to plants or construction sites. Engineering is the second largest profession, exceeded only by teaching. Over a half of the engineering jobs in this country are in the manufacturing industries. Other engineering jobs are in construction, public utilities, and business. Some engineers are employed by federal, state, and local governments; while others are teaching in universities and colleges.

Training and Qualifications:

An engineer must attend a four year college and get a bachelor's degree in engineering. Some engineering jobs require even more education and require a master's degree. To get into an engineering program a student needs advance high school mathematics and science courses. Once accepted into a college engineering course, the first two years are spent studying mathematics, physics, chemistry, and elementary engineering courses; along with English, economics, etc. In the last two years, most of the courses are in engineering. It is at this time a student can study the type of engineering specialty they want.

Beginning engineering graduates usually do more simple tasks and are supervised closely by more experienced engineers. As the new engineering graduates gain experience, they get more difficult and more interesting tasks to do.

Engineers must be able to work as part of a team; be creative; have an analytical mind; and have an ability for detail. In addition, engineers should be able to express themselves well, both orally and in writing.

DRAFTERS

Nature of the Work:

When building a satellite, television set, a bridge, or an apartment building, workers follow drawings prepared by drafters that show the exact size and other specifications of the entire design and each of its parts. Drafters prepare detailed drawings based on drawings, specifications, and calculations made by scientists, engineers, architects and designers. The final drawings from the drafter show a detailed view of the object from all sides, in addition to the material to be used, steps to follow, and other information to complete the job.

In preparing drawings, drafters use compasses, dividers, protractors, triangles, and other drafting devices. Drafters are using computer-aided designs, instead of sitting at a drafting board. Drafters use computer-aided design systems while sitting at computer terminals and make the drawing on a T.V.-like screen. Sometimes the design is never placed on paper, but stored electronically and used to guide automatic machinery.

Drafters usually specialize in a particular field of work such as mechanical, electrical, structural, or architectural drafting. Drafters work in offices, and they often must sit and do very detailed work for long periods of time; this work may cause eye strain and back pains.

Training and Other Qualifications:

Employers want drafters to have training from technical institutes, junior colleges or vocational high schools. Some drafters get their training and experience in the Armed Forces. Others qualify for drafting positions through on-the-job training programs and part-time schooling. Training for a career in drafting requires mathematics, science, mechanical drawing and drafting. Courses in shop practices and shop skills are important. Increasingly, drafters are using computer aided design equipment in stead of drawing on paper.

People planning careers in drafting should be able to do freehand drawings of three-dimensional objects and have the ability to do detailed work with high accuracy. They should have good eye sight and manual dexterity. High school graduates start at lower routine work under close supervision. Those trainees with technical or college training start as junior drafters. After gaining some experience, they may advance to checker, detailers, senior drafters, designers, or supervisors.

SECRETARY

The efficiency of any organization depends in part upon secretaries who are the center of communications within the firm. They process and transmit information to the staff and to other organizations.

Secretaries perform a variety of administrative and clerical duties so that their employers can work on other matters. They schedule appointments, give information to callers, organize and maintain files, fill out forms, and take and transcribe dictation. The amount of time secretaries spend on these and other duties, including typing, depends on the way office work is handled within the organization.

Training and Other Qualifications:

High school graduates qualify for most secretarial positions provided they have basic office skills. Secretaries must be proficient in typing and good at spelling, punctuation, grammar, and oral communication. Shorthand is necessary for some positions.

The skills needed for a secretarial job can be acquired in various ways. Although formal training is not essential for most jobs, training is an asset and may lead to higher paying jobs. Secretarial training ranges from high school or vocational training programs that teach office practices, shorthand and typing to 2 year programs in secretarial science offered by business schools, and community colleges. Employers look for individuals with excellent interpersonal skills, since secretaries must be tactful in their dealings with many different people. Discretion, judgment, organizational ability, and initiative are important for the more responsible secretarial positions.

ACCOUNTANTS

There are four major fields of accounting: public, management, government accounting, and internal auditing. Public accountants have their own business or work for accounting firms. Management accountants handle the financial records of their company. Internal auditors test the accuracy of their company's financial records and check for waste. Government accountants and auditors examine the records and spending of government agencies.

Many people with accounting degrees work for the Federal Government as Internal Revenue Service Agents. Others work for business and professional schools as accounting teachers, researchers, or administrators.

Most accountants and auditors work in offices and have regular hours. Accountants employed by large firms may do some traveling.

Training and Qualifications:

Most public accounting and business firms require accountants and internal auditors to have at least a bachelor's degree in accounting. Many positions require a master's degree in accounting. Most of the positions in accounting require people who are familiar with computers. Beginning accounting and auditing positions require four years of college with at least 24 credits in accounting.

Persons planning a career in accounting should have an excellent ability for mathematics, be able to analyze, compare, and interpret facts and figures quickly, and to make sound judgments based on this knowledge. They must question how and why things are done and be able to clearly communicate the results of their work, orally and in writing.

Accountants and auditors must be patient and able to concentrate for long periods of time. They must be good at working with systems and computers, as well as with people. Accuracy is very important as is the ability to work independently.

Many graduates of junior colleges and business schools, as well as bookkeepers and accounting clerks who have the educational requirements and have experience can become junior accountants.

POLICE OFFICERS and DETECTIVES

Nature of the Work:

The safety of our Nation's cities, towns and highways depends on the work of police officers and sheriffs' deputies whose responsibilities range from controlling traffic to preventing and investigating crimes. Whether on or off duty, these officers are expected to exercise their authority whenever necessary.

Police officers and sheriffs' deputies who work in small communities and rural areas have many duties. In the course of a day's work, they may direct traffic at the scene of a fire, investigate a housebreaking, and give first aid to an accident victim. In a large police department, by contrast, officers usually are assigned to a specific type of duty. Most officers are assigned either to patrol or to traffic duty; smaller numbers are assigned to special work such as accident prevention or operation of communications systems. Others are experts in chemical and microscopic analysis, firearms identification. In very large cities, a few officers may work with special units such as mounted and motorcycle police, harbor patrols, helicopter patrols, canine corps, mobile rescue teams, and youth aid services.

Detectives and special agents are plainclothes investigators who gather facts and collect evidence for criminal cases. They conduct interviews, examine records, observe the activities of suspects, and participate in raids or arrests.

State police officers, sometimes called State troopers or highway patrol officers, patrol highways and enforce laws and regulations that govern their use. They issue traffic tickets to motorists who violate the law. At the scene of an accident, they direct traffic, give first aid, call for emergency equipment including ambulances, and write reports which may be used to determine the cause of the accident. In addition, State police officers provide services to motorists on the highways.

Most new police recruits begin on patrol duty, riding in a police vehicle or walking on "foot" patrol. They may work alone or with other officers in such varied areas as congested business districts or outlying residential neighborhoods. In any case, new officers become thoroughly familiar with conditions throughout their area and, while on patrol, remain alert for anything unusual. They note suspicious circumstances, hazards to public safety, and report them in regular intervals to police headquarters.

Police officers and detectives also write reports and maintain police records. They may testify in court when their arrests result in legal action.

Working Conditions:

Police officers usually work 40 hours a week. Because police protection must be provided around the clock in all but the smallest communities, some officers work weekends, holidays, and nights. Police officers are subject to call any time their services are needed and may work overtime during emergencies.

Police officers may have to work outdoors for long periods in all kinds of weather. The injury rate among police and detectives is higher than in many occupations and reflects the risks officers take in pursuing speeding motorists, apprehending criminals, and dealing with public disorders.

Training and Qualifications:

Civil service regulations govern the appointment of police officers and detectives in practically all States and large cities and in many small ones. Candidates must be U.S. citizens, usually at least 21 years of age, and must meet rigorous physical and personal qualifications. Eligibility for appointment depends on performance in competitive written examinations, as well as on education and experience. Physical examinations often include tests of vision, strength, and agility.

Because personal characteristics such as honesty, good judgment, and a sense of responsibility are especially important in police and detective work, candidates are interviewed by a senior officer at police headquarters, and their character traits and background are investigated. In some police departments, candidates also may be interviewed by a psychiatrist or a psychologist, or be given a personality test. Although police officers work independently, they must perform their duties in accordance with laws and department rules. They should enjoy working with people and serving the public.

In large police departments, where most jobs are found, applicants usually must have a high school education. An increasing number of cities require some college training and some hire law enforcement students as police interns. More police departments are encouraging applicants to take post-high school training in law enforcement. About half of all entrants to police and detective jobs have completed some formal postsecondary education; many are college graduates. Many junior colleges, colleges, and universities offer programs in law enforcement or administration of justice.

Police officers usually become eligible for promotion after a probationary period ranging from six months to three years. In a large department, promotion may allow an officer to become a detective or specialize in one type of police work such as traffic control, communications, or working with juveniles. Promotion to sergeant, lieutenant, and captain usually are made according to a candidate's position on a promotion list, as determined by scores on a written examination and on-the-job performance.

BIOLOGICAL SCIENTISTS

Nature of the Work:

Biological scientists study all aspects of living organisms and the relationship of animals and plants to their environment. Although many specialize in some areas such as ornithology, the study of birds, all have in common the study of life.

Many biological scientists are primarily involved in research and development. Some conduct basic research to increase knowledge of living organisms. Others in applied research use this knowledge in activities such as developing new medicines, increasing crop yields, and improving the environment. Those working in laboratories must be familiar with research techniques and the use of laboratory equipment and computers. Not all research, however, is performed in laboratories. For example, a botanist may do research in the volcanic valleys of Alaska to see what plants grow there.

Other biological scientists work in management or administration, for example: planning and administering programs for testing foods and drugs and directing activities at zoos or botanical gardens. Some work as consultants to business firms or to government, while others test and inspect foods, drugs, and other products or write technical publications. Some work in technical sales and service jobs for companies manufacturing chemicals or other technical products.

Working Conditions:

Bilogical scientists generally work regular hours in offices, laboratories, or classrooms and usually are not exposed to unsafe or unhealthy conditions. Some biological scientists such as botanists, ecologists, and zoologists may take field trips which involve strenuous physical activity and primitive living conditions.

Training and Qualifications:

The Ph.D. degree generally is required for college teaching, independent research, and for advancement to administrative research positions and other management jobs. A master's degree is sufficient for some jobs in applied research. The bachelor's degree is adequate preparation for some beginning jobs, but promotions often are limited for those who hold no higher degree. New graduates with a bachelor's degree can start their careers in testing and inspecting jobs, or become technical sales and service representatives. They also can become senior biology technicians, medical laboratory technologists and technicians or, with courses in education, high school biology teachers. Many with a bachelors degree in billogy enter medical, dental, veterinary, or other health profession schools. Some enter a wide range of occupations with little or no connection to biology.

Most colleges and universities offer bachelor's degrees in biological science and many, advance degrees. Curriculums for advanced degrees in biological science often emphasize a particular area of biological science such as microbiology or botany. Not all universities offer all curriculums. Requirements for advance degrees usually include fieldwork and laboratory research, as well as classroom studies and preparation of a thesis.

Prospective biological scientists should be able to work independently or as part of a team and must be able to communicate their findings clearly and concisely, both orally and in writing. Biological scientists conducting field research in remote areas must have physical stamina.

LINE INSTALLERS and CABLE SPLICERS

Nature of the Work:

A vast network of wires and cables links the electric power produced in generating plants to individual customers and connects telephone central offices to each other and to customers' telephones and switchboards. This network is constructed and maintained by line installers and cable splicers and their helpers.

To install new electric power or telephone lines, line installers, place wires and cables that lead from the central office or generating plant to customers' premises. They usually use power-driven equipment to dig holes and set in the poles that support cables. Line installers climb the poles or use truck-mounted buckets and then use various hand-tools to attach the cables. When working with electric power lines, installers must bolt or clamp insulators onto the pole before the cable can be attached. They may add other equipment, such as lightning arrestors, transformers, or switches. For both electric power and telephone wires, installers usually leave the ends free for cable splicers to connect later.

In cities where power and telephone lines are below the streets, installers place cables in underground conduits. After line installers place cables on poles, towers, or underground conduits and trenches, cable splicers generally complete the line connections. Splicers work on poles, aerial ladders and platforms, in manholes, or in basements of large buildings. Line installers and cable splicers spend much of their time maintaining and repairing telephone and power lines. In some areas, this is done by a separate group of workers called cable repair technicians or cable testing technicians. Installers periodically check to keep the lines clear of dead trees or limbs that could cause problems. Cable splicers routinely check to make sure that insulation on cables is in good condition and that insulators and other equipment on line poles are working properly. This preventive maintenance is extremely important, because a single defect in a cable may interrupt service for many customers. When wires or cables break, or when poles are knocked down or underground ducts collapse, these workers must make emergency repairs as rapidly as possible. These repairs are most common in parts of the country that have hurricans, tornadoes, earthquakes, and heavy snowfalls.

Working Conditions

Line installers and cable splicers usually work outdoors in all kinds of weather. They must do a lot of climbing and lifting, and often work in stooped and cramped positions. They face hazards such as falls and electric shocks, but these have been greatly reduced by safety precautions developed over the years. These workers are subject to 24-hour call.

Training and Qualifications:

Line installer usually is an entry level job. Although local hiring policies vary, employers require a high school diploma. High school courses are valuable, especially in developing reading and arithmetic skills essential for understanding company manuals and work orders. Many employers test applicants for basic verbal, arithmetic, and abstract reasoning skills. In addition, there are entry tests of physical ability such as balance, coordination, and strength. Applicants also ma- be tested for mechanical aptitude. Knowledge of the basic principles of electricity and training in installing may be helpful. Stamina and ability to climb to great heights, as well as ability to distinguish colors is necessary because wires and cables are usually coded by color. Motivation, self-discipline, and the ability to work as part of a team are needed to work efficiently and safely.

Training programs for line installers and cable splicers include classroom instruction as well as on-the-job training. In addition to the employer's training, line and cable workers may attend a training school provided by manufacturers who sell cable installation equipment to telephone or electric power companies.

COMMUNICATIONS EQUIPMENT MECHANICS

Nature of the Work:

The ability to communicate quickly and easily is a necessarity in modern society. Because communication is vital to a healthy economy, it is essential that the communications system operate smoothly. Installing, repairing, and maintaining the wide array of complex and sophisticated communications equipment are the responsibilities of communications equipment mechanics. Most of this work is done in telephone company central offices by highly specialized workers.

Central office equipment installers, or equipment installation technicians, set up, rearrange, and remove the complex switching and dialing equipment used in central offices. They install equipment in new central offices, add equipment in expanding offices, or replace outdated equipment.

Installers follow work order information, blueprints, circuit diagrams, electrical schematics, and floor plans to position and wire equipment. They often use hoists to lift heavy items, and handtools, such as screwdrivers or soldering guns, to connect equipment once it is in place. For example, they construct and erect iron and steel frames and connect these to the central office equipment. The newer electronic equipment, however, comes in preassembled components and often requires only simple plug-in connections.

Frame wirers, sometimes referred to as frame workers or frame attendants, connect, disconnect, inspect, and repair wires that run from telephone lines and cables to the central office. The frame has many terminal lugs mounted on it, each of which is assigned a specific telephone number. It also contains one repair of wires for each telephone that is connected to that central office. To connect a new telephone, the frame wirer attaches the customer's pair of wires to a set of terminal lugs, using small handtools, such as pliers, screwdrivers, and soldering irons. To disconnect a telephone, the frame wirer melts the solder or otherwise removes the wires from the terminal. Frame wirers inspect and repair all parts of the frames after checking for breaks or loose wires. They also may help other craft workers locate and correct malfunctions. To gain experience, frame wirers generally work on residential telephone service. Later, they may work on more complex special services, such as circuitry for large business systems, civil defense warning sirens, or burglar alarms.

Central office repairers, often referred to as central office technicians or switching equipment technicians, test, repair, and maintain all types of local and toll switching equipment that automatically connects lines when customers dial numbers.

When customers report trouble with their telephones, trouble locators work at special switchboards, sometimes called testboards, to find the source of the problem. To do this, they have the telephone repairer connect a portable phone at various places on the customer's line until a connection can be made to the central office.

Other communications equipment mechanics include instrument repairers, who use handtools and power tools to repair, test, and modify communications equipment such as telephones, teletypewriters, and switchboards. In addition, they may paint various types of equipment and cut and weld iron for special work equipment. Some mechanics specialize in working on telegraphic equipment, they are called automatic equipment technicians, telegraph plant maintainers, or teletype installers, these workers install, repair, and maintain a variety of transmitting and receiving equipment in telegraph company offices and on customer's premises.

Working Conditions:

Because most communications systems operate 24-hours a day, 7 days a week, many communications equipment mechanics have work schedules that include shifts, weekends, and holidays. Where shift work is required, the assig-ments are made on the basis of seniority. To cope with any emergency that may arise, these workers are subject to 24-hour call. Mechanics generally work in clean, well-lighted, air-conditioned surroundings. Depending on the job, they may have to stand for long periods, climb ladders, and do some reaching, stooping, and light lifting. Some wear headsets most of the time and communicate constantly over telephone circuits with others. Because much of the older communications equipment continually produces sounds, these workers must learn to "block out" noise.

Training and Qualifications:

Requirements vary by employer. Preference in filing mechanic jobs generally is given to employees already with the company, such as operators, clerical workers, or line installers. Occasionally, trainees are hired from outside. New employees without experience in the field are required to take an examination to test their arithmetic, verbal, and abstract reasoning skills. Because wires are usually color coded, persons who are considering this job should be able to distinguish colors. Physical strength and agility are needed for carrying equipment and climbing and working from ladders, and physical examinations generally are required. In addition to manual dexterity, applicants should have the analytical skills and judgment to resolve mechanical difficulties. Self-discipline is needed to follow detailed instructions without close supervision. Prospective workers should be able to work as part of a team, since cooperation with others often is essential in solving complex problems.

Reading comprehension, logic and arithmetic ability are helpful in understanding company manuals and circuit wiring diagrams.

Trainees generally start as frame wirers. This is an entry job, and there are no set education requirements. Although local hiring practices vary, many companies do not require a high school diploma. The ability to read and understand company manuals and work orders is important. New workers receive about six months of classroom instruction and on-the-job training. These workers have a number of opportunities for advancement, which usually involves further technical training. They may be promoted to jobs maintaining more sophisticated equipment, or to jobs as engineering technicians. Some advance to sales or personnel work.

APPENDIX J

SCHEDULE OF GUEST SPEAKERS

September 18	Truckdriver (Transportation)
October 16	Teacher (Personnel Services, Educator)
November 19	Lawyer (Legal Aid Society, Personnel Services)
January 14	Pharmacist (Health)
January 20	Nurse (X-ray Technician, Health)
January 27	Pfizer Chemical Engineer (Marketing and Distribution); Secretary
February 18	Mr. Smith (Scientist, Educator)
February 26	Police and Sanitation, Public Service
March 16	AT&T Engineer (Communications)
March 26	Con Edison (Public Service Occupation)
April 11	Brooklyn Union Gas (Public Service Occupation)
April 14	Career Fair

APPENDIX K

SCHEDULE OF CLASS VISITS

Pfizer Chemical	January 21, 22, 25
Woodhull Medical Center	February 16, 17, 18
79th Precinct	March 8, 9, 10
Throop Avenue Firehouse	March 21, 22, 23